

THE CHARACTERISTICS OF ENTREPRENEURIAL ACADEMIC SCHOOLS AT AN  
INSTITUTION USING A RESPONSIBILITY CENTERED MANAGEMENT BUDGET  
MODEL

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Drastic shifts in the funding of American higher education over the last three decades have forced many public colleges and universities to adopt an entrepreneurial approach to meet their financial bottom line. Increasingly, public colleges and universities are adopting Responsibility Centered Management (RCM) budget models because they encourage educationally sound choices, efficiency, and entrepreneurial behavior. Despite a growing body of research on the efficacy of RCM models at the institution level little is known about their impact on the academic schools within the institution. Guided by Clark's (1998) research on entrepreneurial behavior in higher education, an embedded case study design was used to test the extent to which entrepreneurial behavior exists within three academic schools at an institution using an RCM budget model and to identify the characteristics of this behavior.

From this study three main findings were identified. First, entrepreneurial schools understand and leverage the inherent incentives in their institutions RCM model. Second, entrepreneurial schools recognize and capitalize on the environment within and around the university. Third, entrepreneurial schools are committed to increasing their research performance. From these emerged an additional finding that the external environment, and how a school perceives the challenges and opportunities present in this environment, impacts the strategic responses of each school. The presentation of findings leads to recommendations for practice at academic schools within an RCM environment.

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## **Chapter I: Introduction**

Drastic shifts in the funding of American higher education over the last three decades have forced many public colleges and universities to adopt an entrepreneurial approach to meet their financial bottom line (Clark, 2004). Three factors have converged to disrupt the traditional revenue flow for public research universities: decreased state financial support to higher education; pressure to mitigate tuition increases on students; and a more competitive federal research market (Slaughter & Rhoades, 2004; Ehrenberg, 2009). This “new normal” in the financial environment presents higher education with an opportunity to think outside the box and devise new strategies to secure funding. In essence, institutions are being challenged to become more entrepreneurial. But what entrepreneurial strategies are they adopting? And more specifically, to what extent, if any, are academic deans and faculty members engaging in entrepreneurial activity?

This chapter begins with a brief overview of the new financial environment public research university leaders face as they consider their entrepreneurial strategies. The importance of this study, including its purpose and context, is then presented. The conceptual framework for this study is then introduced as well as the broad research questions which guide the study. The chapter ends with an overview of the remaining chapters of the dissertation.

### **Financial Environment Scan**

State appropriations to public universities have steadily declined for more than thirty years (SHEEO, 2013). Increases in the costs of services and entitlements such as public K-12 education, Medicaid, and other basic safety and infrastructure initiatives have cut into higher education’s share of the state budget (Rizzo, 2006). Because colleges and universities have

multiple revenue streams such as student tuition, research grants, and private donations, they are better positioned to absorb a cut in state funding than are the other entities. During periods such as an economic recession, then, many state legislatures are more aggressive in funding cuts to higher education knowing the institutions could make up the lost revenue elsewhere (Long, 2013; SHEEO, 2013; Johnson, 2014). To offset the lost state revenue, colleges and universities have passed costs on to students in the form of tuition increases (Hossler, 2006; Baum & Ma, 2013). To provide some context on this cost shift, consider that in 1988 net tuition accounted for just 23.8 percent of total educational revenue (SHEEO, 2013). In 2013 this number rose to 47.5 percent (SHEEO, 2013). This shift was accelerated during the Great Recession when tuition increases outpaced the rate of state cuts, pinching students and families at the most inopportune of times (Long, 2013). This added cost burden on students and families fueled political pressure on public universities to rein in tuition increases (Kiley, 2012).

In the years after the Great Recession several state legislatures, such as Iowa, Nebraska, and Wisconsin, pressured their state's public institutions to decrease or freeze tuition (Kiley, 2012). Other states, such as Indiana, strongly encouraged their public institutions to align their tuition changes with any increases in the Consumer Price Index (Smith, 2012). For the 2013-14 academic year five of the eleven public Big Ten universities did not raise tuition at all for resident students<sup>1</sup>. What once was a convenient tool for institutions to increase revenue is now constrained.

At the same time, the supply of federal research funding is shrinking, increasing competition among institutions for highly coveted grants (Harris & Benincasa, 2013; Slaughter

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<sup>1</sup> Based on the author's calculations of published tuition and fee rates of the eleven Big Ten public universities for the 2013-14 academic year.

& Rhoades, 2004). The budget of the National Institutes of Health, a major source of funds for medical and public health schools, has decreased by 20 percent since 2004 (Harris & Benincasa, 2013). The National Science Foundation reports federal funding for basic research performed at universities and colleges decreased by three tenths of a percent between FY 2011 and FY 2012 (Yamaner, 2014). This has not been good news for universities.

Higher education leaders find themselves pinched on all sides. State appropriation cuts show no signs of abating. Federal research funds are stagnant. The public is weary of more tuition increases. Where are they turning to find new sources of revenue?

In recent years higher education scholars such as Clark (1998; 2004) and Slaughter and Rhoades (2004) began to pull back the curtain and report on the strategies used by entrepreneurial universities. What they found is very revealing. There is no single antidote. Rather, the most successful institutions have adopted a series of innovative strategies in the pursuit of new revenue. These strategies reflect a culture shift that empowers faculty to be entrepreneurial in their research and academic deans to pursue new academic program initiatives.

Examples of these new initiatives include the creation of new degree programs that respond to changes in the marketplace and prepare students for new careers. Universities are expanding graduate programs, including online degrees, to appeal to adult learners seeking new credentials. Spurred on by the Bayh-Dole Act, universities are securing patents and capitalizing on their research. This comes in the form of faculty business start-ups and necessitated the creation of university technology transfer offices to manage this growth. University alumni and development functions have matured into multi-million dollar fundraising operations (Clark,

1998; 2004; Slaughter & Rhoades, 2004; Morpew & Eckel, 2009). Entrepreneurial innovation is increasing on college campuses and is a phenomenon that merits more research.

### **Importance of the Proposed Study**

This study seeks to determine the extent to which entrepreneurial behavior is occurring at the academic school level within a public research university. Existing literature on entrepreneurial behavior, such as Clark (1998; 2004), focuses on university level case studies and gives little attention to activities at the department level. Further, much of the existing literature on Responsibility Centered Management (RCM), the budgeting model used at the institution in this study, focuses on its benefits at the institutional level. The foundational RCM texts (Whalen, 1991; Priest, Becker, Hossler & St. John, 2002; Strauss & Curry, 2002; Strauss, Curry, and Laws, 2013) spend very little time discussing how academic units, specifically deans and faculty, navigate the system. The studies that do exist about academic units in an RCM environment (Stocum and Rooney, 1997; McBride, Neiman, & Johnson, 2000) were written by the actors themselves and are now more than fifteen years old.

An additional goal of this study is to contribute evidence of a RCM models ability to encourage entrepreneurial behavior. As Hearn et al. (2006) note in their case study on RCM at the University of Minnesota “the ratio of rhetoric to actual findings on the performance of IBBS<sup>2</sup> is too high,” (Hearn et al., 2006, p. 295). This evidence will be useful to academic deans, faculty members, and financial officers within schools at institutions that utilize RCM. The findings will provide them with data and perspectives on the entrepreneurial behavior of their RCM peers in the current fiscal environment, information not currently present in the literature.

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<sup>2</sup> IBBS is an abbreviation for Incentive Based Budgeting System, which is another name for RCM.

## **Purpose of the Study**

The purpose of this study is to determine the extent to which entrepreneurial behavior exists in academic schools at an institution that uses RCM. To understand the phenomenon this study utilizes Burton Clark's (1998) five elements of entrepreneurial action as a conceptual framework. The framework is applied to three individual academic units within the selected university. This provides for analysis of the extent to which entrepreneurial behavior exists in each school.

## **Context of the Study**

Given the economic pressure for institutions to become more entrepreneurial this study seeks to understand entrepreneurial behavior within three academic schools at a public research university. The study occurs at a public research university that utilizes a Responsibility Centered Management (RCM) budgeting model. This is intentional. Because this study seeks to understand entrepreneurial behavior it seems appropriate to look for this behavior in an environment that promotes it. As a model, RCM encourages efficiency, educationally sound choices, and entrepreneurial behavior (Priest & Boon, 2006). RCM is also increasing in popularity among public universities.

Between 2008 and 2011 the number of public, doctoral institutions using RCM increased by 14.9 percent to 21.3 percent of the total sector (Inside Higher Ed, 2011). This is the largest change in the sector during that time period. Since 2011 institutions such as Temple University, the University of Florida, and the University of Oregon have adopted their own RCM models (Porter, 2013). It is fair to say that a growing number of public research universities are



considering, and even adopting, RCM as a budget model. It is within this context that this study's research on entrepreneurial behavior occurs.

The unit of analysis for this study is the academic school because in RCM decision making authority is given to the academic dean of each school. And since an aim of the RCM model is to unleash entrepreneurship, it stands to reason that if there are entrepreneurial solutions they would be emanating from the schools. So how will we know what entrepreneurial behavior looks like?

### **Conceptual Framework**

This study utilizes Burton Clark's (1998; 2004) framework for understanding entrepreneurial universities. Clark defines an entrepreneurial university as one that seeks to innovate in how it goes about its business (1998). They seek to "work out a substantial shift in organizational character so as to arrive at a more promising posture for the future," (1998, p. 4). In Clark's study, entrepreneurialism is considered as a characteristic of social systems. These social systems comprise entire universities and their internal departments, research centers, faculties, and schools. Clark argues rather forcibly that an entrepreneurial ethos is a good thing for a university to possess:

Effective collective entrepreneurship does not carry a university beyond the boundaries of academic legitimacy, setting off a down-market cycle of reputation, resources, and development. Rather, it can provide resources and infrastructures that build capability beyond what a university would otherwise have, thereby allowing it to subsidize and enact an up-market climb in quality and reputation (1998, pg. 4-5).

To understand how this entrepreneurial ethos is achieved Clark identified five elements of an entrepreneurial university. These five elements, which are defined in more detail in chapter two, are identified by Clark as the following: the strengthened steering core; an expanded developmental periphery; a diversified funding base; a stimulated academic heartland; and an integrated entrepreneurial culture.

### **Research Questions**

Given that so little is known about entrepreneurial behavior within academic schools, it is worth studying to learn the extent to which entrepreneurial behavior exists in the schools. Further, what are the characteristic of this behavior? What have successful entrepreneurial schools figured out that would be beneficial for their peers to know?

### **Organization of the Dissertation**

This dissertation is organized into six chapters. In this first chapter I have presented the rationale for why it is important to understand the extent to which entrepreneurial behavior exists in academic schools that use a RCM model. In chapter two, I present a review of the literature on entrepreneurial behavior in higher education and a short summary of RCM. Chapter two illustrates the gap in the literature as it relates to understanding entrepreneurial behavior in a RCM model. Chapter three proposes the methodology selected for this research study. Chapter four is a contextual overview of the site selected. Chapter five is a presentation of the findings and analysis of the data collected. In the final chapter, chapter six, a synthesis and discussion of the findings as well as their implications for practice is presented.

## **Chapter II: Review of the Literature**

In this chapter the literature on entrepreneurial behavior in higher education is reviewed to provide a context for studying the research questions presented in Chapter 1. The purpose of this study is to identify the extent to which entrepreneurial behavior exists in academic schools at an institution that uses an incentive based budgeting model. In order to understand what entrepreneurial behavior looks like in an academic school it is important to first define entrepreneurial behavior. This chapter begins by defining entrepreneurial behavior and defining the three types of entrepreneurial opportunity. A review of the extant literature on entrepreneurial behavior in higher education then follows. This section discusses entrepreneurial behavior at the institution, academic school, and individual faculty level. The chapter then transitions to a brief review of the Responsibility Centered Management literature because this study will occur at an institution that utilizes RCM as a budget model. This portion of the chapter highlights the scholarly gap present in the understanding of entrepreneurial behavior within this scheme.

### **Entrepreneurial Behavior Defined**

As we begin the discussion on entrepreneurialism it is important to define what it is and what it is not. Webster's defines an entrepreneur as "a person who starts a business and is willing to risk loss in order to make money;" and "one who organizes, manages, and assumes the risks of a business or enterprise" (Merriam-Webster, 2015). To be entrepreneurial, then, is to act as an entrepreneur and be willing to take a risk in pursuit of a larger initiative with the intent to make or save money.

As the focus of this study is entrepreneurial behavior at a non-profit university, a profit motive is not present. The pursuit, then, is not profit but rather revenue to financially support the academic priorities of the university. The current economic environment in higher education is one of decreasing state financial support and a price sensitive marketplace that limits fast increases in tuition revenue. Given these circumstances, what risks are academic leaders willing to assume in the pursuit of new revenues? In other words, how are they acting in an entrepreneurial manner? To answer this it is worth first visiting the literature on entrepreneurship to understand how it defines opportunity.

Entrepreneurial opportunity “consists of a set of ideas, beliefs, and actions that enable the creation of future goods and services in the absence of current markets for them,” (Venkataraman, 1997, as cited in Saravathy, 2011, p. 79). Entrepreneurship scholars present a typology for understanding the three main types of opportunity. These three types, each based on the pre-conditions for their existence, are: opportunity recognition; opportunity discovery; and opportunity creation (Saravathy, 2011).

*Opportunity recognition* occurs where both supply and demand exist rather obviously (Saravathy, Dew, Velamuri, & Venkataraman, 2011). The opportunity to connect the two must be recognized. This connection must be implemented through either an existing firm or a new firm. In the opportunity recognition frame existing markets are exploited. Franchises are an example of this. Where new neighborhoods are built strip malls with grocery stores, gas stations, and fast food outlets are sure to follow to meet the new demand for these products.

*Opportunity discovery* refers to instances where only one side of the supply and demand relationship exists. The non-existent side has to be “discovered” before connection can be made

(Saravathy, Dew, Velamuri, & Venkataraman, 2011). In the opportunity discovery frame, the notion of opportunity has to do with the exploration of existing and latent markets. An example of this is a cure for a disease. The demand, in the form of the disease, exists but the supply, in the form of the cure, needs to be discovered first in order to fill the market demand.

*Opportunity creation* is required when neither supply nor demand exist in an obvious manner, one or both need to be “created” and several economic inventions in marketing, financing, etc., have to occur for the opportunity to come into existence (Saravathy, Dew, Velamuri, & Venkataraman, 2011). The iPhone is an example of this phenomenon. Before the market for smartphone applications could exist, the iPhone needed to be created. When Apple unveiled the iPhone they also created markets for smartphone applications.

These three views provide a framework for understanding opportunity. Entrepreneurs need to have a vision to recognize, discover, or create innovations in response to the opportunities present in their environment. Beyond this they must then move from seeing the opportunity to acting upon it.

Entrepreneurship is a mindset and an action and should be viewed in a broad context. “Creating material wealth is only one expression of entrepreneurship. Entrepreneurship isn’t a business. It is an attitude to engaging the work- a process of cultural innovation,” (Cherwitz, 2005.) Cherwitz’s philosophy of intellectual entrepreneurship follows the three views enumerated above. Intellectual entrepreneurship is a philosophy and vision of education viewing academics as “innovators” and “agents of change,” (Cherwitz, 2005). Intellectual entrepreneurs, both inside and outside of universities, take risks and seize opportunities, discover and create

knowledge, innovate, collaborate and solve problems in any number of social realms: corporate, non-profit, government, and education (Cherwitz, 2005).

With all of this as context, this study uses the definition put forward by Eckhardt and Shane (2011) that entrepreneurship is “the discovery, evaluation, and exploitation of future goods and services,” (p. 47). In the higher education context these future goods and services include the creation and dissemination of knowledge for new use and application. Entrepreneurial behavior, then, is the action taken by higher education actors in pursuit of new opportunities to generate revenue.

### **The Entrepreneurial University**

Burton Clark’s (1998; 2004) research on entrepreneurial behavior in higher education provides a useful heuristic for understanding the phenomena. Clark describes the most successful entrepreneurial institutions as those that adopted a form of collective entrepreneurship. To better understand how collective entrepreneurship comes to be, Clark (1998) identified these five elements of entrepreneurial action: a strengthened steering core; an expanded developmental periphery; a diversified funding base; the stimulated academic heartland; and the integrated entrepreneurial culture. Each is defined in more detail in the following paragraphs.

The first element Clark defines is the *strengthened steering core*. “Ambitious universities need to become quicker, more flexible, and especially more focused in reactions to expanding and changing demands. A strengthened steering core takes different shapes, but it must embrace central managerial groups and academic departments” (1998, p. 5-6). To achieve

this, the institution must find a way to balance traditional academic values with new managerial values and approaches.

Clark (2004b) holds up the University of Michigan as an example of what a strong steering core looks like at the university level. Between 1988 and 1996 President James Duderstadt guided the university by re-casting the way it conceptualized strategy (2004b). Duderstadt directed the institutions focus to one of “strategic intent.” A strategic intent focus deliberately challenged the institution to use innovation to close the gap between its resources and its ambitions. This stood in contrast to the traditional view of simply finding fits between existing resources and current opportunities. To achieve its ambitions Duderstadt encouraged an evolutionary planning process that celebrated small wins. These small wins marked incremental changes in pursuit of the larger goal. By adopting this posture at the university level, front line academic leaders could proceed confidently in their own initiatives that supported the institutions larger goals (2004b).

The *expanded developmental periphery* is the second element of entrepreneurial action. Innovative universities are willing to expand beyond old boundaries and partner with outside organizations and groups (Clark, 1998). Examples of this include university technology transfer offices, continuing education, fundraising, and alumni affairs offices. If a university’s trade with external groups is to continue to evolve, its infrastructure must keep pace (1998).

Academic schools are increasingly hiring their own development officers to fundraise directly on behalf of the school. The effect of this is to more closely tie academic needs to fundraising and involve department heads in a more direct manner (Slaughter & Rhoades, 2004). Sometimes this is part of a campaign, other times it is simply a direct request for money to support direct operations.

Some departments are very direct with their corporate partners and have developed corporate scholars programs with a required internship component to place students directly into industry. Another approach is to charge companies a fee for the right to recruit students from the department (Slaughter & Rhoades, 2004). This does two things. It creates a pipeline between the two entities that, on the one hand, can lead to future collaborations and on the other hand opens up a new revenue stream.

As it relates to research there is an interesting interplay between the expanded developmental periphery and the stimulated academic heartland. In his original 1998 study Clark presented this relationship through the experience of the University of Warwick in England. At Warwick, where entrepreneurial behavior is strongly encouraged, each of the departments developed research centers focused on their own subjects (Clark, 1998). Faculty are engaged in their research and actively seeking new sources of funding to support it. In turn they are leveraging the results of their research through consulting and using it to attract new students to their courses (Clark, 1998). In 1995 the business school reported that over three-quarters of its budget came from earned income through teaching, research, and consulting. This was a significant shift from earlier years when it was more dependent on grants from Britain's Higher Education Funding Council (Clark, 1998).

Building on the idea of the expanded developmental periphery Clark writes that a *diversified funding base* is the third element of entrepreneurial action.

To fashion a new change-oriented character, a university generally requires greater financial resources: it particularly needs discretionary funds. Widening the financial base becomes essential, since virtually everywhere mainline institutional support from government, as a share of total budget, is on the wane (1998, p. 6).



Clark offers that a common second major source of revenue is to compete for contracts and grants. But this is not enough. To truly diversify, universities must seek to open up additional streams by tapping into industry, government, philanthropic foundations, royalty income from intellectual property, earned income from campus services, student fees, and alumni fundraising. Of these, student fee revenue is the stream most frequently tapped by colleges and universities.

The most common examples of new revenue streams are departments and schools creating new degree programs to meet changes in market demand (Slaughter & Rhoades, 2004). In an effort to increase the number of students majoring in physics, and thus taking physics classes, one physics department developed a Bachelor of Arts degree to complement its Bachelor of Science degree (Slaughter & Rhoades, 2004). Summer sessions are increasingly more common for students majoring in psychology, economics, and business. “An advantage of summer school is that it pays immediate and direct monies to departments, independent of allocation of state monies,” remarked one department head (2004, p.190). The growth of new courses as a revenue stream is especially pronounced at the graduate level.

Graduate programs in and of themselves are not new. What is new is that in an entrepreneurial mindset the purpose isn’t so much to prepare people for employment as it is to target people who are already employed to participate in a new type of degree program (Slaughter & Rhoades, 2004). Slaughter and Rhoades attribute this directly to the pursuit of revenue. “The development of new masters degrees is a dramatic break from the past and reflects a significant reorientation at the graduate level to external employment and to revenue generation” (2004, p. 191). To appeal to these students departments remove the thesis as a

requirement for graduation (Slaughter & Rhoades, 2004). Full-time workers pursuing graduate degrees in a part-time fashion are considered cash cows because they don't require the higher levels of financial support that other graduate students do.

When the other three elements have evolved the fourth element, the *stimulated academic heartland*, is found. The academic heartland consists of the traditional academic departments, new and old, and some interdisciplinary fields of study. It is in the academic heartland that promoted changes and innovative steps are most likely to fail (Clark, 1998). Faculty must "buy-in" and feel a part of the would-be innovations to improve the likelihood of their success. Without their support, the innovation fails and the life of the institution proceeds largely as before. For change to take hold, individual faculty and departments need to become entrepreneurial in action, willing to explore new relationships and promote third stream income. In the entrepreneurial university, the heartland accepts a modified belief system (Clark, 1998).

A stimulated academic heartland is quantified by more abstract measures than the other elements. They are described by Clark as "dynamic places attractive to faculty, students and resource providers," (2004b, p. 176). It is evident by the exuberance of the faculty. They believe not just in their own research and teaching, but in the overall strategic direction of the school. Often it is the science and technology departments that are the early adopters to entrepreneurial pursuits (Clark, 2004b). Clark attributes this to their experiences in administering costly projects, labs and equipment (Clark, 2004b). They have been socialized to seek resources and execute a plan. Whenever possible, Clark advises, departments positioned to generate revenues should do so.

The presence of all of these elements culminates in the fifth element, the *integrated entrepreneurial culture*. Enterprising universities develop a work culture that embraces change.

As ideas and practices interact, the cultural or symbolic side of the university becomes particularly important in cultivating an institutional identity and a distinctive reputation (Clark, 1998).

In his experience studying universities the world over, Clark identified bold assertions as indicators of an institutions' culture. At Warwick University faculty and administrators refer to the "Warwick Way" as their unofficial motto to convey its entrepreneurial approach (2004b). The Catholic University of Chile boasts that is leading the new 'exceptionalism' in Latin America (Clark, 2004b). Closer to home, Clark studied six research universities in the US and found repeated assertions centered on a forward thinking capacity to change (2004b). These institutions were motivated by a relentless pursuit for prestige among their peers. Their language and attitudes reflect the spirit fostered by school leadership.

These five elements provide a useful framework to identify and understand to what extent entrepreneurial behavior might be present at a university. Gjerding et al. (2006) expanded on Clark's work by extracting from Clark's research what they call the twenty practices of the entrepreneurial university. Gjerding's team then tested the existence of these practices through a study of four universities that are members of the European Consortium of Innovative Universities (ECIU). The researchers conducted an audit of each institution, by means of interviews, to test the existence of the practices. They found that the practices have been implemented to various degrees and without any real coherent system or structure in place. A key difference in the institutions is their degree of ambition in relation to each of the practices. What is particularly helpful about this study is the researchers identified a deeper level of factors that facilitate and frustrate entrepreneurial behavior. A limitation of their study is that they did not offer specific measures and examples to flush out these factors in more detail. They are,

however, useful markers for researchers seeking to identify the presence of entrepreneurial behavior and are presented in the following paragraphs.

**Factors that facilitate an entrepreneurial university.** Gjerding et al. (2006) identified the following four components that facilitate entrepreneurial behavior. The first is *organizational culture*. The organization must have an ethos that supports and values entrepreneurship. “If entrepreneurship is a basic value guiding what people are doing, the university will experience entrepreneurial activities even in cases where supporting infrastructures, funding systems and the like may not be ideal for promoting entrepreneurship,” (Gjerding, et al., 2006, p. 14).

The second facilitator for entrepreneurship is to have *supporting organizational structures* in place. These structures include a dynamic management mindset, an organizational commitment to entrepreneurship, and the availability of flexible funding. Each of these elements supports the drive to innovate.

The authors find that *strategy*, specifically the one used in practice rather than the strategy on paper, is essential. “a strategy that combines strong leadership with decentralized degrees of freedom seems preferable.... Associated incentive structures, financial and otherwise, need to be in place,” to support the strategy (Gjerding, et al., 2006, p. 14).

The final facilitator, *external cooperation*, speaks to the university’s role in economic development. “Taking a key role in the development of the region in which the university is located stimulates external co-operation and hence entrepreneurship,” (Gjerding, et al., 2006, p. 14).

**Barriers to an entrepreneurial university.** Among their findings Gjerding et al. (2006) identified the following as barriers to entrepreneurship:

*The flexibility of the administration and regulation.* Tensions exist between the administrative need for rules and bureaucracy and the entrepreneurs need for flexible solutions. A lack of flexibility from members of the administration inhibits entrepreneurial behavior (Gjerding et al., 2006).

*Risk-averse culture.* Administrators and management have "... a tendency to equate entrepreneurial activities only with making money rather than with developing the quality of research, teaching, and external co-operation," (Gjerding et al., 2006, p. 15). Administrators are resistant to organizational change and reticent to create incentive structures that are tuned to entrepreneurial activity.

*Long term commitment to external co-operation and applied research.* Money that is allocated to entrepreneurial ventures is often limited to short-term purposes. This stifles the scope of entrepreneurship to only those ventures which will yield near term payoffs (Gjerding et al., 2006).

*Systems for spin-offs are lacking.* The infrastructure and capital needed to create and develop start-up businesses is not present (Gjerding et al., 2006).

These facilitating and inhibiting factors are useful for understanding the potential opportunities and pitfalls that may emerge as an academic leader sets out on an entrepreneurial path. It is helpful to know what to look out for and how to prepare. Another study, by University of Durham Professor Emeritus Allan Gibb (2010), considers what an appropriate model of entrepreneurship for the higher education sector would look like. Gibb identifies two critical steps necessary to introduce the entrepreneurial concept to higher education.

The first step is that there needs to be clarity about the concept in order to get buy-in across the institution. Gibb (2010) advocates for an approach that emphasizes opportunity seeking in new initiatives. The second critical step is to identify champions across the institution to develop and buy into the model (Gibb, 2010). The intellectual champion is essential because they can leverage their knowledge, social, and political capital to involve campus stakeholders in the initiative. This helps move the initiative from an idea to a plan and an action.

These two steps are key ingredients for successfully navigating the complex bureaucracies that are colleges and universities. They are even more important to remember as an academic leader seeks to make change and innovate in this environment. As the following section shows, engaging in entrepreneurial behavior on the front lines requires a skilled hand. Clarity and an intellectual champion are necessary if innovation is to succeed and be sustained.

### **Entrepreneurship at the Department Level: Academic Capitalism**

The theory of academic capitalism is based on the notion that public and nonprofit institutions of higher education are increasingly engaging in market and market like behaviors to generate external revenues (Slaughter & Rhoades, 2004). Underlying this theory are the realities of the new market. Institutions are increasingly dependent on student tuition to replace the lost revenue from decreasing state appropriations and a more competitive federal research grant market (Slaughter & Rhoades, 2004). The growth in professional administrators and the creep of new managerialism methods into the administration has brought with it a changing approach to funding the university. Academic capitalism “moves beyond thinking of the student as consumer to considering the institution as marketer,” (Slaughter & Rhoades, 2004, p.1).

Under the theory of academic capitalism, university actors span boundaries beyond their traditional realm of the campus and the classroom. Knowledge becomes viewed as a raw

material institutions can monetize. With this resource institutions engage in the market in new ways, such as start-up companies created by faculty or online education offered to working professionals seeking a credential. Two key policies helped usher in the academic capitalism era: the change in student financial aid policy in 1972 and the Bayh Dole Act of 1980. In both instances, markets emerged where none existed before. But as Slaughter and Rhoades note, “although federal legislation creates opportunities for academic capitalism, it is far from causal,” (Slaughter & Rhoades, 2004, p.40). Other factors in the environment needed to exist to force university leaders to recognize and act on the new opportunities in the market. These factors included the shift in the public perception of higher education from a public to a private good, the steady decrease in the amount of state financial support, the increased competition for shrinking federal research dollars, and the emergence of college rankings to create the prestige market. These factors have been brought to bear at the department level.

Slaughter and Rhoades tested their theory of academic capitalism by interviewing department heads and faculty members at eleven public research universities. They focused specifically on the fields of engineering, physical sciences, life sciences, mathematics, and social sciences. Their focus was to find out “...whether and the extent to which there were trade-offs in departments between the pursuit of academic capitalism and the production of undergraduate education,” (2004, p. 182). Their findings are instructive for any academic dean trying to engage in innovative behavior to generate resources and further the educational work of his/ her school. These findings are detailed in the following paragraphs.

### *Fiscal pressures*

Fiscal pressures were a real and prevalent issue among the department heads. "...heads talked about the increased pressure from provosts to presidents to enhance productivity and generate new revenues," (Slaughter & Rhoades, 2004, p.183). Slaughter and Rhoades note that the institutions' budget model impacted the perception and the immediacy of these pressures. For example, department heads in an incentive based budgeting model, also known as RCM, were more aware of the full revenue and expense realities and felt the pressure to act. Heads in a more centralized environment were a little more removed from these facts and thus felt differing levels of pressure based on their institution. In response to the need to find revenue and enhance productivity, department heads were less likely to pursue new research opportunities and more likely to expand educational activities and programs.

**Research entrepreneurship.** In the realm of research entrepreneurialism, securing federal grant money equals research prestige. Presidents and Vice Presidents for research watch the National Science Foundation Research and Development charts as closely as Provosts watch the US News and World Report rankings (Slaughter & Rhoades, 2004). However, the market for federal grant money has substantially changed. "The federal government is still, by a ratio of approximately ten to one, the principal source of external support for academic research. Yet the orientation of federal funding agencies had increasingly turned toward commercially relevant research," (2004, p.185).

Slaughter & Rhoades (2004) found evidence that suggests faculty are yet to fully understand this new reality. Department heads have long preferred the dogged pursuit of federal money instead of private, entrepreneurial research markets because of the prestige factor associated with federal grants. However, when the federal funding faucet is turned down faculty



are slow to react. The recent history of NIH grants provides a useful example. When the budget of the NIH increased steadily between 1998 and 2003 research universities and faculty built new labs and hired researchers on the belief that the trend would continue. Since 2004 the NIH budget has decreased by 20%, not including a brief two year bump in 2009 from stimulus funds (Harris & Benincasa, 2014). Overlapping this same period has been the drastic increase in grant applications to the NIH. Between fiscal year 1997 and 2011 the number of grant applications to the NIH doubled from around 31,000 to 62,000 (Harris & Laird, 2013). With the decrease in available funds and the increase in applicants funding rates are dropping. According to research done by Harris and Laird funding rates for some NIH and NSF programs have hit historical lows (2013). Prominent scientists are experiencing difficulty maintaining their labs and concerns exist that such low success rates may drive promising junior faculty from the field (2013).

Diversified research funding sources and mentorship of junior faculty to seek these sources are two possible solutions to the tightened federal funding market. Now, as then, the evidence suggests institutions aren't embracing these approaches. The University of Virginia is one of the institutions that expanded its laboratory facilities in anticipation of continued grant funding (Harris & Benincasa, 2014). Without that revenue they have increased tuition to cover the costs and cite supporting research as a driver of the increase (2014). Slaughter and Rhoades (2004) found no evidence of a systematic push across units to recruit new junior faculty who would connect with industry. Even more, there was no consistent evidence that showed department heads were mentoring junior faculty in the direction of doing entrepreneurial work. As we will see when we discuss Aldridge & Audretsch (2010) later in the paper, this connection with industry at the faculty level is a crucial component in entrepreneurial activity and should be encouraged.

**Educational entrepreneurship.** More prevalent, and more successful, were the educational entrepreneurial endeavors. Here a considerable collective effort to generate new revenue streams exists, primarily in the areas of new program developments and new educational activities. Slaughter and Rhoades (2004) identified five forms of educational activity for new revenue.

First, departments reorganized existing curricula or developed new programs to attract more majors in their fields. These changes were driven “not so much by educational considerations as by a sense of potential opportunity structures in new economy employment markets,” (Slaughter & Rhoades, 2004, p. 190). Thus departments position their offerings in a way that make the department attractive to students in preparing for the modern job market. An example is the mathematics department that created an undergraduate program in actuarial science (Slaughter & Rhoades, 2004). A second new activity was the expansion of summer programs to generate new revenues for the department.

Developing new continuing education opportunities for working professionals is the third strategy adopted by departments. Playing in this market opened up a host of new opportunities. Departments developed educational offerings ranging from professional master’s degree programs to workshops or short courses marketed directly to businesses as a means to generate revenue while providing professional development to the employees (Slaughter & Rhoades, 2004).

Engaging in fund-raising and direct development activities for education purposes is the fourth strategy sought by departments. This ranged from the targeted solicitations of alumni to simply asking businesses for direct operations support (Slaughter & Rhoades, 2004). This approach moved the fundraising closer to the academic needs and involved the department heads in a more direct manner.

The final strategy was less common but it involved placing students in industry (2004). One approach was to create a corporate scholars program with an internship component that matched students with specific companies. Another approach was to charge companies a fee for the right to recruit and interview students in the department. In each of these approaches, the student is the raw material being leveraged for revenue.

In light of each of these approaches to generating new revenue Slaughter and Rhoades still observed what they termed as an “uneven level of strategic response,” (2004, p. 194). In the face of fiscal pressures and changing student demands, many departments don’t know what to do, are not willing to do something, or they are saved by virtue of a special commitment by the administration (Slaughter & Rhoades, 2004). Slaughter & Rhoades (2004) identified several reasons and/or excuses that reinforce resistance to engaging in entrepreneurial behavior. These include:

*Location:* Particularly as it relates to partnering with businesses. Respondents indicated that their locales in college towns away from major cities and centers of industry hampered their ability to foster meaningful partnerships.

*Lack of vision by department heads:* Many were openly bitter about the pressure to find new sources of grants or revenues from educational activities. They were either unable or unwilling to adapt to the new market.

*Protection from the pressure:* Protection happens when a department has a history of winning federal grants and has not had to adjust to a new reality because they have not yet felt the pinch of a tighter market. It also occurs when a prestigious department might not be delivering credit hour or research revenue, so the administration props them up with other support to keep the prestige high for the institution.

*Clash of values:* The values needed to succeed in the new market are sometimes seen as being at odds with the traditional values of the academy.

*Lack of clarity:* A lack of clear priorities from the central administration frustrated department heads. On the one hand they were being leveraged to increase outputs in old markets- prestige and federal research- and new markets- student, educational, and entrepreneurial- without any direction on where to prioritize time and resources (2004).

In total, this study is useful for understanding the tensions academic managers must negotiate in pursuing new innovations. It also presents clear examples of the types of strategies employed by these managers. Slaughter and Rhoades (2004) found that while academic capitalism has “become part of the core education activity of the academic heartland,” the transition to an entrepreneurial culture is “...very much incomplete,” (p.203). Innovation is occurring in the areas of developing new academic units and the creation of professional degree programs, but the emphasis on federal grants as a prestige driver comes at the expense of opportunities to partner with business in entrepreneurial research.

### **Entrepreneurship at the Individual Level**

Audretsch and Aldridge’s (2010) study sought to identify the factors that facilitate and inhibit the entrepreneurship of individual scientists. The factors they considered include the individual characteristics of age, gender, human capital, social capital, and financial capital. Additionally, the characteristics of the scientists’ home campus technology transfer office were also considered. The study found that age, gender, and human capital have no statistically significant impact on a scientists’ propensity to become an entrepreneur. Audretsch and Aldridge did find that social capital is the most important influencing factor for scientists to become entrepreneurs.

Those scientists with higher levels of social capital, in that they are members of a scientific advisory board of a company, or they have co-authored articles with scientists working for a company, exhibit a systematically higher propensity to become an entrepreneur (Audretsch & Aldridge, 2010, p. 20).

When you tie the findings of this study back to the research done by Slaughter and Rhoades (2004) disconnects between current market realities and traditional academic values are apparent. As discussed in Slaughter and Rhoades (2004) there is a real pressure for faculty to produce and innovate, but department heads in the sciences don't recruit junior faculty who would connect to industry, nor do they mentor them to do so. However, Audretsch and Aldridge (2010) find that social capital, in the form of some connection to industry, spurs entrepreneurship. The implication of this is clear. It is good practice for academic managers to encourage and support faculty to engage and partner with industry. This spurs entrepreneurial activity.

The chapter now moves from the definition and review of entrepreneurial behavior in higher education to a brief review of the literature on responsibility centered management.

### **Responsibility Centered Management**

Colleges and universities are complex organizations described as “organized anarchies” by Cohen and March (1986p. 195). The diversity of the universities activities, revenue streams, and expenses create challenges for the budget and planning processes (Goldstein, 2012). The two processes are distinct yet intertwined. Budgets are a map that guides an institution on its path to carry out its mission and should reflect institutional priorities (Priest & Boon, 2006; Goldstein, 2012). Planning precedes budget development and is the process of identifying

institutional goals and organizing resources to achieve those goals (Goldstein, 2012; Kotler & Murphy, 1981; Haueser, 2000). Institutions are advised to closely integrate the two functions even if they are not formally aligned (Haueser, 2000). Several different budget models are used in higher education and they merit brief definition.

*Formula budgeting* uses mathematical formulations to estimate resource requirements based on the relationships between program demand and program cost. Formulas are constructed using historical data, projected trends, and negotiated parameters. Formula budgeting is rare within a college or university. Instead, it is used at the system or state-wide level to assist the proper control authority with the budget process (Goldstein, 2012).

*Incremental budgeting* models simply adjust the prior year's budgets by a fixed percentage to address changes in available resources (Goldstein, 2012). In this approach, projected increases or decreases in resources are distributed uniformly across the budget categories (2012).

*Zero-based budgeting* focuses on the specific program or activity. It assumes no budget from prior years. Each unit must justify the benefits and costs of their activities in relation to the universities goals and objectives (Goldstein, 2012). Proponents of this model like that each unit must prove its worth and that the model can help identify and cut out initiatives that don't contribute to the institutions mission (2012).

*Initiative based budgeting* is a structured approach for distributing resources to fund new initiatives that support institutional goals (Goldstein, 2012). Institutions typically finance new initiatives in one of the following three ways: retain centrally a percentage of new resources for

the coming budget; create reallocation targets for individual units; or utilize unspent contingency funds (Goldstein, 2012).

*Performance based budgeting* has become very popular at the state level. It tightly links outcomes to resources. Specific outcome measures are determined and resources are distributed based on performance in relation to the measure (Goldstein, 2012). For example, state coordinating bodies in Indiana and Tennessee use performance funding to allocate state appropriations to public institutions as an incentive to further state higher education goals (2012).

The budget model we are concerned with in this study, Responsibility Centered Management, also known as RCM, is a type of *incentive based budgeting system* that originated at the University of Pennsylvania in the 1970s (Priest, Becker, Hossler & St. John, 2002). In broad terms, incentive based budgeting systems encourage entrepreneurship, efficiency, and educationally sound choices through the decentralization of responsibility coupled with the authority to make decisions about revenues and expenditures (Priest & Boon, 2006; Whalen, 2002). Decision making authority is shifted from the central administration to the dean's and fiscal officers at the responsibility center level (Whalen, 1991; 2002). There are many types of incentive based budgeting models. These include Value Centered Management, Decentralized Budgeting, Activity Based Budgeting, Value Responsibility Budgeting, and Revenue Responsibility Management. The name differences reflect differences in the values, priorities, and political realities of the campus on which they are implemented (Priest et al., 2002). This paper will refer to RCM as the acronym to describe these incentive based budget models.

## **Why Responsibility Centered Management?**

Early adopters to RCM, such as the University of Pennsylvania and the University of Southern California, implemented the model in hopes of strengthening their institution. In the case of USC, the prospect of declining enrollments, uncertain finances, discontent, and lack of information within the highly centralized system prompted leaders to seek an alternative budget model. University leadership believed RCM would bring a stable environment, encourage entrepreneurship, and improve financial management, all aims of the RCM model (Rahnamay-Azar, 2008).

RCM gives academic schools more responsibility over their budgeting decisions. The theory behind this is that the academic deans are closer to, and more familiar with, the issues within their school than the central administration and thus should be empowered to make the best decisions for their school. At large public universities decentralization might be appropriate because "... the large enrollment and multi-college/ school arrangement meant that the central administrators were making financial decisions about programs which they knew very little," (Priest & Boon, p.179). In the wake of the Great Recession of 2008, several other public universities, including the University of Ohio, Arizona State University, Kent State University, Temple University, and the University of Washington have initiated their own RCM models (Curry, Laws & Strauss, 2013). The motivations towards RCM vary by institution, but the common threads of increased dependence on tuition revenue, decreased state appropriations, and the need to balance institutional aspirations with financial responsibility, are shared (2013).

RCM becomes a desirable budget model because of the open nature of its budget and planning process and the level of responsibility given to departments and faculty to plan their academic operations (Priest, Becker, Hossler, and St. John, 2002). RCM takes cues from for-



profit businesses in the sense that situating budget and financial targets at the unit level (in the case of the university, the school) allows central management the ability to see clearly the profits and costs of the entire corporation (Priest & Boon, 2006). But unlike business, whose ultimate goal is to earn a profit, the goals of a university are the faculty missions of teaching, research, and service. The incentives created by the institution should be created with the intention of advancing the university's mission (2006).

### **Advantages and disadvantages of Responsibility Centered Management**

The RCM literature is long on administrative recollections of RCM success at the institutional level (Whalen, 1991; Massy, 1996; Strauss & Curry, 2002 & 2013). Embedded in these recollections are perspectives on the advantages and disadvantages of RCM. The next two sections will review these advantages and disadvantages. As appropriate, brief discussion will be added to highlight the gaps present as they pertain to entrepreneurial behavior at the academic school within RCM.

**Advantages of Responsibility Centered Management.** Inherent within the structure of RCM are the benefits of increased accountability and local decision making (Hummell, 2012). Whalen's (1991) RCM principles of functionality and knowledge foster an environment of transparency that exposes all costs and revenues within the institution. Individual units, and the institution itself, are forced to reconcile all costs and revenues (Lang, 1999). Units are unable to mask any shortfalls or excess costs (1999). The assignment of costs to the program level forges strong links between planning and budgeting (1999).

Lang (1999) echoes other authors (Whalen, 1991; Strauss & Curry, 2002; Strauss, Curry, & Laws, 2013; Priest & Boon, 2006) by identifying the encouragement of entrepreneurial behavior and the generation of revenue as a significant advantage of RCM. "Because income as

well as cost is attributed to the colleges, faculties, or departments under RCB/ RCM, the effect on principals, deans, or chairs is immediate: the generation of revenue counts,” (Lang, 1999, p. 4). This quote is indicative of the gap in the literature that this study seeks to fill. First, it highlights the assignment of costs and income to the individual college level. Second, it cites the immediate impact of the dean in charge of the college. Third, it highlights that the generation of revenue counts but then nowhere in the article are there specific examples of the academic deans addressing their need to generate revenue.

Proximity, which was Whalen’s (1991) first concept, is also cited by many authors as an advantage of RCM. “RCB/ RCM presumes that the capability to make some decisions is greater lower in the organizational structure, and that those are often decisions about the allocation of resources and about the trade-offs between income and expense,”(Lang, 1999, p. 4). Gros Louis and Thompson, in their 2002 analysis of RCM at Indiana University, provide a useful anecdote about a unit utilizing this authority to address a challenge. In this instance the problem was the unavailability of courses. This problem almost disappeared with the advent of RCM because units now had incentives to add more sections when courses filled, or to close low enrollment sections and move resources to other areas of need (2002).

Gros Louis and Thompson identify increased faculty involvement in the budget process as another advantage of RCM, especially in times of fiscal constraint.

Under RCM each school had its own budgetary advisory committee that made recommendations on the use of income to each of the deans. The campus might not have lived through the four years of decreased or steady state appropriations without RCM. Under the previous budgetary mechanism, the burden of making ends meet would have fallen solely on the campus administration, which held all the income and all the state

appropriation. Between 1990 and 1994, however, the need to balance the budget became the obligation of each responsibility center and, in fact, some schools were better off in 1994 than they were in 1990 (p. 95-96, 2002).

This quote is important to this study because it highlights the necessity of this research. Gros Louis and Thompson tell us that the responsibility centers were instrumental in helping the campus navigate a period of fiscal retrenchment. However, we learn little about how the academic units themselves acted. What decisions did they make? Based on what information? Which schools were better off in 1994? What did they do differently than the other schools? These questions are important to ask because the answers are instructive to other academic deans in an RCM environment.

**Disadvantages of Responsibility Centered Management.** Many of the authors already cited presented disadvantages of RCM to balance their praise of the system. These disadvantages are discussed in more detail here. Also discussed are some more full-throated criticisms of RCM from Kirp (2003) and Bugeja (2012). These authors view RCM as a symptom of the increase of managerial values in higher education.

Bugeja's (2012) opinion piece in the Chronicle of Higher Education lays several problems in higher education at the feet of RCM. He argues that the pursuit of revenue has created incentives for academic units to create "new, untested degree programs" in the pursuit of revenue. This exacerbates student debt and slows progress towards degree completion. Further, the "rubber-stamp collegiality" mindset in higher education, which "stems from both overt and covert messages in academe that imply colleagues have 'no right' to express concern over the viability or importance in an area for which they have no expertise," is perpetuated in an RCM environment (Bugeja, 2012).

Bugeja offers the School of Journalism at the University of South Carolina as an example of the negative impacts of RCM. He quotes Shirley Staples Carter, professor and past director of the School of Journalism and Mass Communications at the University of South Carolina as saying:

In addition to problems such as course duplication that are often the result of rubber-stamp approval, journalism and mass communication programs across the country are also feeling the effects of curriculum change. Some have fallen prey to the RCM approach, proposing trendy courses rather than emphasizing good writing, ethics and professional responsibility, analytical and critical thinking, and creativity” (2012).

This criticism of RCM’s impact on academic quality echoes Kirp’s (2003) complaints that RCM would erode the academy.

Kirp (2003) uses the experiences of the University of Southern California and the University of Michigan as cautionary tales to other institutions about RCM. At USC, individual schools competed fiercely for undergraduate students and their tuition dollars (2003). Units began to offer general education courses and found ways to keep students taking courses within their schools. At Michigan, the central administration was willing to cut side deals with individual deans to get their buy-in to the model. This undermines the RCM transparency principle. Kirp argues that RCM, and business principles in general, are appropriate to apply to higher education so long as leaders realize they are in the education field and not in a business.

Strauss, Curry and Whalen advocate for a strong chief academic officer to be “...vigilant in emphasizing the incentives for good academic performance and in discouraging possible unfortunate side effects in the schools and departments,” (1996, p. 171). These unfortunate side

effects include schools restricting students from taking courses in other schools and schools aggressively recruiting students from other schools, both alluded to in Kirp (2003). A remaining potential weakness occurs at the department level. “Department chairs elected by their faculty for short terms may have difficulty in providing the strong financial management needed with decentralized management,” (Strauss, Curry & Whalen, 1996, p. 172). In each of these instances it would be helpful if there was more context provided on why these are shortfalls. For example, what is too short a term for a department chair to be effective in a decentralized budget model? How have schools handled the competition for students? Is it a ruthless contest, or are there policies and agreements instituted to handle these problems? This study won’t answer all of these questions, but it will advance the knowledge base of the academic school experience within an RCM model particularly as it relates to entrepreneurial behavior.

**Responsibility Centered Management and academic schools.** Stocum and Rooney (1997) and McBride (2000) offer insightful perspectives on the academic school experience with RCM. Each are discussed in this section, but it’s worth noting that both focus on schools located at Indiana University-Purdue University Indianapolis at roughly the same time. The articles are seventeen and fourteen years old, and while they contain useful information, they were written during a period of financial prosperity.

Stocum and Rooney (1997) discuss the impact of Indiana University’s decision to adopt RCM as a budget model on the IUPUI School of Science. At the time the School of Science was one of 17 schools on the IUPUI campus. Leaders of the school made the decision to devolve RCM down to the academic department level. The purpose of this was “to maximize RCM’s inherent incentives while minimizing its potentially negative side effects,” (1997, p. 52). This decision empowered department chairs. School leadership determined that the chairs were the

experts and, as such, were best positioned to respond to their own needs and incorporate faculty input. A positive outcome of this decision was the identification of high expenditures on part-time instruction (1997). The empowered chairs were now motivated to control these costs and reallocate the savings into other areas of need. Overall, revenue in the school increased, expenditures were clearly identified and controlled, the number of majors increased, and faculty salaries increased (1997). This brief case study is very helpful in understanding RCM through the lens of an academic school, but it is seventeen years old and could go further to explain the context and decision points deans and chairs faced.

McBride's (2000) case study of the IUPUI School of Nursing's response to the implementation of RCM found that RCM required adjustments to their leadership and decision making calculus resulting in "shift from a dean as one who lobbies central administration for resources to one who assumes full responsibility for expanding and using resources to the best advantage," (p. 201). Because RCM encourages a better understanding of limited resources on the campus and in the school, strategic planning is a necessity. One decision Nursing made was to shift from focusing on size to instead developing centers of excellence. This decision emerged from the schools planning process. McBride found that successful implementation of RCM at the unit level requires that "costs and revenues must always be analyzed in relationship to institutional values," and the "unit CFO needs to be more than an accountant... A dean needs someone with level conceptual skills, someone who can do problem solving and think critically about linking financial planning to strategic planning," (p. 207). This quote is very helpful in crystallizing a key aspect of this research study, the thinking required in an RCM environment is different than other budget models. Leaders within responsibility centers must be strategic thinkers and they must be entrepreneurial.

In an attempt to fill the void in evidence based research on RCM, Kosten's (2006) dissertation studied academic deans' perspectives on the effectiveness of RCM. She surveyed 279 academic deans at 27 doctoral extensive universities using an RCM budget model to learn their opinions on the positive and negative outcomes of RCM. Kosten used a factor analysis to identify four positive and four negative outcomes of RCM. Positive outcomes of RCM from the deans' perspective include effectiveness as a dean, accountability and entrepreneurialism, empowerment, and fiscal awareness. The negative outcomes reported were increased competition among colleges, a negative impact on interdisciplinarity, fiscal priorities superseding academic considerations, and college priorities overriding university priorities. These outcomes reflect the advantages and disadvantages of RCM discussed earlier in this review. What's helpful about this study is that it re-iterates, from a deans' perspective, some of the opportunities and challenges inherent within an RCM system. What is lacking, however, is more discussion on how deans make decisions within the RCM environment.

## **Conclusion**

The literature reviewed in this chapter defined entrepreneurial behavior, the three views of opportunity that inform entrepreneurial action, and entrepreneurial action within higher education. The review of Clark's research provides a framework for the evaluation of entrepreneurial behavior at an academic school. Further, the review of RCM literature illustrates the incentives inherent within the system that promote entrepreneurial behavior while at the same time highlighting the gap in understanding the extent to which such behavior exists within the academic schools. This study seeks to fill this gap. The next chapter provides a complete description of the research methods used in this study.

### **Chapter III: Methods**

The purpose of this study is to determine the extent to which entrepreneurial behavior exists at the academic school level of an institution that utilizes a Responsibility Centered Management budgeting model. This qualitative case study relies on participant interviews and document analysis as the means of data collection. This chapter lists the possible research sites and the criteria used for the selection of cases. Further, the research design, research questions, data collection methods, and analysis techniques are summarized. Permission to conduct this study was received from the Indiana University Institutional Review Board.

This research was guided by one overarching research question and five sub-questions. The primary research question is: to what extent do academic schools within a RCM budgeting model engage in entrepreneurial behavior? To answer this question the following five sub-questions, based on Clark's (1998) framework, were used to analyze the entrepreneurial behavior of the schools: (1) to what extent has the school strengthened its steering core; (2) to what extent has the school expanded its developmental periphery; (3) to what extent has the school diversified its funding base; (4) to what extent has the school stimulated its academic heartland; and, (5) to what extent has the school integrated an entrepreneurial ethos into its culture? A series of questions were asked to help answer each of these sub-questions. These questions are presented in Appendix A.

The impetus for this study draws from my own professional experiences in higher education. I am curious to know what entrepreneurial behavior looks like at the academic school level. I am curious to know this because one of the foundational premises of RCM is that it encourages entrepreneurial behavior. However, there is little evidence in the RCM literature of how, and then to what extent, this behavior occurs at the school level. I chose to study this



qualitatively because the richness of the qualitative data would uncover the behaviors and beliefs of the school leaders. This follows the methodology of Clark (1998; 2004) and Slaughter and Rhoades (2004) who also engaged in qualitative analysis to understand entrepreneurial behavior in higher education. The interviews and document analysis provide information on the thought processes of school leaders as they made critical decisions on how to pursue, or not to pursue, resources to support their activities.

An analysis of documents, such as the university's website, publications, and media reports, served as a starting point for understanding the operating context of the school which helped focus my interview questions. The interviews allowed for a deeper probe into specific philosophies, strategies, and decisions points faced by the actors within the school.

I approached this research from a constructivist paradigm, which assumes that reality is individually constructed by the people in a given situation (Crotty, 1998). While I engaged in document scan and analysis, the emphasis in the data collection process was placed on the interviews with the school leaders and faculty members. The reason for this was to extract from those involved in the operation and financial management of the school their interpretations of the school's entrepreneurial efforts. Layering these responses over the criteria put forth by Clark yielded an even clearer understanding of the level of entrepreneurialism present at the school.

### **Identifying Research Sites**

When selecting a research site it is most important to select cases that provide the greatest learning potential (Stake 1995; 2005). Yin (2014) recommends using two case studies, but he provides five rationales for selecting a single case design. The five rationale for using a single case design occur when a researcher has a case that is either critical, unusual, common,

revelatory, or longitudinal. A *critical* case can confirm, challenge, or extend an existing theory (2014). “The theory should have specified a clear set of circumstances within which its propositions are believed to be true. The single case then can be used to determine whether the propositions are correct or whether some alternative set of explanations might be more relevant,” (Yin, 2014, p.51).

An *unusual* case is one that represents an extreme or abnormal case (Yin, 2014). A *common* case seeks to understand the circumstances that surround everyday occurrences (2014). *Revelatory* case studies are those that allow a researcher to analyze a situation previously inaccessible to study (2014). The last rationale is the *longitudinal* case study, in which the researcher observes the same single case at two or more different points in time.

Yin (2014) warns that there are some vulnerabilities in selecting a single case study design. Single case designs require that the researcher be diligent upfront in investigating the potential case site to minimize the chances of error or misrepresentation and to maximize the access needed for data collection (2014). This mitigates the chances of the case later turning out to be different than thought at the beginning of the study. Putting the time and work in at the beginning of the study helps ensure selection of a solid research site.

There are two types of single case studies, the embedded and the holistic. The embedded single case is comprised of one case, such as an organization like a hospital or university, with multiple units of analysis to be studied (Yin, 2014). On the other hand, a holistic single case study would study the same organization, but rather than analyzing different components or units would instead examine only the global nature of the organization (2014).

For this study I am chose to do an embedded single case study. This method is selected because my research is consistent with Yin's (2014) critical rationale for a single case. It is a critical study because it tests the extent to which Clark's (1998) five elements of entrepreneurial behavior exist in an environment where they are engineered to exist. It is an embedded study because it contains multiple units of analysis. The context of the study is the use of the RCM budget model at a college or university. The case is the specific university where the study is being conducted. The units of analysis are the three selected academic schools at the university. This study contributes to the literature on entrepreneurial behavior and RCM because little is known about entrepreneurial behavior at the academic school level in this context.

### **Basic Selection Criteria**

The research occurred at an institution that has been using RCM as a budgeting model for at least ten years. This timeframe was selected because it provides a reasonable period of time for the budget model to have been in place and take hold in the institution.

The study occurred at a public research institution. One of the drivers cited for the increase in entrepreneurial behavior in higher education is the decrease in public funding in the form of state appropriations for public colleges and universities. With this as context, it is appropriate that this study follow previous studies (Clark, 1998; 2004; Gjerding et al., 2006; Slaughter & Rhoades, 2004) in focusing on public institutions. Within the selected institution, three academic schools were chosen for further examination. The selected institution is within a half a day drive of the researcher. This facilitated the ease of data collection. Much of the collection occurred through in person interviews, so accessibility was essential to support the study.

## Case Identification

Case identification followed Stake's (2005) advice to select "the one [case] most accessible or the one we can spend the most time with," (p. 451). I was purposeful in identifying a case with the most information, willingness to be studied, and proximity to the researcher. The list of potential research sites included:

- Indiana University Bloomington
- Indiana University-Purdue University Indianapolis
- University of Michigan
- Ohio State University
- University of Illinois Urbana Champaign
- Miami University of Ohio

Once the case site was identified the next step was to select the three schools for study. Two methods were used for school selection. This first was the snowball method (Yin, 2014). The snowball method was executed by asking the Associate Vice Chancellor for Finance of the campus for her recommendations of schools she believed to be the most entrepreneurial.

The second method is through objective evidence. This study used select measures on entrepreneurial behavior that follow Clark's (1998) observations on Twente University. In the 1980s Twente devised an early form of decentralized budgeting and encouraged academic units to raise additional funds. Increased income for the units at Twente depended on attracting more students as well as success in competing for research grants (1998). With this as context, this study analyzed five year trends in student credit hours<sup>3</sup>, research expenditures, and total

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<sup>3</sup> Fall and Spring semester credit hours were used to control for the fact that not all schools offer summer courses.

budgeted expenditures for all of the schools on the campus from FY2010- FY 2014. Medians were calculated for each category. Schools were then identified as being either above or below the median for each of the measures. Schools performing above the median in all three categories were then considered for study and cross-referenced with the list developed through the snowball method.<sup>4</sup> After cross-reference, any schools appearing in both lists were selected for the study. The researcher then made initial contact with the academic schools for study.

## **Research Design**

A case study investigates a phenomenon within its real life context and draws upon evidence from multiple sources (Stake, 2005; Yin, 2014). The purpose of this case study is to determine the extent to which entrepreneurial behavior exists in academic schools at a university that uses RCM as a budgeting model. The five characteristics of entrepreneurial behavior are: the strengthened steering core; an expanded development periphery; a diversified funding base; a stimulated academic heartland; and the integrated entrepreneurial culture. Analysis of the data will permit conclusions to determine the extent to which these elements exist.

In order to conduct the study access to the research site was needed. The researcher requested permission by following the selected site's protocol. This included securing permission from the sites Institutional Review Board. Once permission was granted the researcher traveled to the campus for an observational site visit to get a feel for the campus, its physical environment, and culture.

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<sup>4</sup> Controls were put in place for outlier data. For example, schools of business are generally not big players in the research market so low performance in the research expenditure measure is expected and not a limiting factor to participation in the study.

## Data Collection

The key data sources for this study were participant interviews and an analysis of relevant documents. Relevant documents included past budgets, the university budget office website, the school website, press releases, and news stories (Yin, 2014). Documents are a useful way to corroborate and support evidence from other sources (2014). Interviews were conducted with either the Dean, or the Associate Dean in charge of the school's finances, as well as three faculty members within the school. The faculty members were identified through the snowball method by asking the Dean for recommendations of three faculty for interviews (2014). The interviews were digitally recorded and transcribed. Transcription was continual. Participants had the opportunity to review their interview transcripts for accuracy (Yin, 2014).

## Data Analysis

Before the data was analyzed it was first coded. All data were coded into themed categories (Yin, 2014). Coding data and developing themes occurred throughout the data collection period. There was a separate data analysis process for each of the units of analysis, the three academic schools. The outcome of this analysis yielded descriptive information on each school's behavior to determine the extent the school is entrepreneurial.

A continuum for each of Clark's (1998 & 2004) five entrepreneurial elements was created as a construct for determining the extent of entrepreneurialism present in each school. These continuums are presented in Appendix B. The continuum is designed in a three point fashion: high, medium, and low. These scores were determined in the following manner:

**High:** The schools data aligns closely with Clark's definition of entrepreneurial behavior for this element.

**Medium:** The schools data aligns somewhat with Clark's definition of entrepreneurial behavior for this element.

**Low:** The schools data does not align with Clark's definition of entrepreneurial behavior for this element. The behavior is the opposite of the definition of this element.

Once all themes were plotted along the continua the researcher was able to make a determination as to the level of entrepreneurialism present in each school.

### **Trustworthiness**

The researcher undertook multiple measures to ensure validity. Member checking was utilized as a method to ensure accuracy of interviewer statements. A case study protocol was developed to ensure congruence in the collection of data and to keep the researcher targeted on the purpose of the case study (Yin, 2014).

The researcher employed multiple sources and built a chain of evidence for the research. The sources in this study included participant interviews, documents such as past budgets, relevant university web sites, press releases and news sources. Multiple participant interviews in combination with the document analysis allowed for data triangulation to minimize error. Peer debriefing, in the form of the dissertation committee, was utilized. Peer debriefing allowed for review and questions of the study to ensure it resonated with people other than the researcher (Creswell, 2014). The study was submitted to the Indiana University Institutional Review Board for approval. Official approval was secured from the selected site before any interviews were conducted.

## **Researcher standpoint**

My role in the research process is to bring to the forefront the different perspectives and experiences of those interviewed with the intention of understanding entrepreneurial behavior in a higher education context. My experiences with higher education may bias my perspectives on the data. To mitigate any concerns about bias Creswell (2014) recommends the researcher clarify any bias he brings into the study.

The total of my graduate and professional experience in higher education has occurred at a single institution that utilizes RCM. I have experienced the system from four perspectives: as a graduate student responsible for undergraduate course development, as a student affairs staff member, as a staff member in the campus budget office, and as a staff member and undergraduate program director in an academic school. Though I have experience working with academic school leadership and faculty in the system, I do not have direct the direct entrepreneurial experience this study seeks to identify and understand.

An additional bias I bring to this research is that I value innovation and the entrepreneurial spirit. I come from a family of entrepreneurs and have spent time in the private sector. Because of this value set and personal experience, I am inclined to look for entrepreneurial solutions to problems. To protect against any bias I engaged in honest and transparent decision making and sought clarity about my rationale for decisions made in the data analysis process (Yin, 2014).

## **Study limitations**

The goal of the research study described above is to determine the extent to which entrepreneurial behavior is occurring in academic schools with a RCM environment. As a result,



this study describes what the behavior looks like and assesses its level of success. Possible limitations to the study include: (a) identifying the correct participants; (b) a leadership transition during the study, which could affect participation; (c) lack of trust or transparency on the part of a participant who may be reluctant to share information. An additional limitation to this study is the timeframe selected for the study. It is possible that a different five-year measurement period might have yielded different schools that fit the selection criteria for the study.

## **Chapter IV: Context of the study site**

The purpose of this chapter is to provide context on both the institution and the three schools selected for case analysis. Because a hallmark of qualitative data is the rich detail and description it provides, it is important to “set the scene” for this study. This chapter begins with an overview of the institution where the study took place. A description of the institution’s budget model follows. Then, each of the three sites will be described in more detail. This step is taken to provide the reader with a better sense of the school, its place in the higher education environment, and the current opportunities and challenges before the school from the perspectives of those interviewed. This context is necessary in order to fully understand the results presented in chapter five.

### **Overview of the Site**

The State Capital campus of Midwest Public University (SCMPU) is a thriving place. Less than fifty years old, it is situated downtown in a thriving city that is one of the 25 largest metropolitan areas, by population, in the United States. SCMPU is a partnership of the two largest public universities in the state: Land Grant University (LGU) and Midwest Public University (MPU). MPU is the controlling administrator of the campus, but degree programs from each university are awarded at SCMPU.

The SCMPU campus was founded in 1969. The mission of the campus is to “advance the state and the intellectual growth of its citizens to the highest levels nationally and internationally through research and creative activity, teaching and learning, and civic engagement,” (SCMPU website). The campus has traditionally served a commuter population of students who live in the capital city metropolitan area, but in recent years it has built residence

halls and are serving an increasing number of traditional, full-time residential students. The current enrollment is 30,690 students. Of this, 22,525 are undergraduate and 8,165 are graduate. Nearly 79% of undergraduates attend school full time.

There are 17 academic schools and two colleges on the campus. This includes a medical school, nursing school, and dental school. A hospital is attached to the medical school. The largest academic schools, in terms of total budgeted expenditures, are Medicine, Science, and Dentistry. In recent years the university has added two new schools: Public Health and Philanthropy. In total there are more than 2,500 faculty at SCMPU, of which 90% of the fulltime faculty have professional or doctoral degrees.

The campus proximity to the state capital, which is the largest city in the state, provides many opportunities for the institution. The state is among a handful of states that have thrived in the years since the Great Recession, adding jobs and employers. The institution and the state each strive to be on the leading edge of innovations in healthcare and technology. Additionally, the state is a major motorsports center offering partnership opportunities for the campus in the areas of research, degree programs, and internships.

### **Campus budget model**

The campus utilizes a form of incentive based budgeting known as Responsibility Centered Management (RCM). In this model decision making authority is shifted from the central administration to the dean's and fiscal officers at the responsibility center level (Whalen, 1991 & 2002). In theory, RCM encourages entrepreneurship, efficiency, and educationally sound choices through this decentralization of responsibility and authority over revenues and expenditures (Priest & Boon, 2006; Whalen, 2002). The following paragraphs detail the

priorities central to the RCM model on the SCMPU campus and the methods used for attributing revenue and costs during the five year measurement period used for this study (FY 2010- FY 2014). The primary source of this information was the Associate Vice Chancellor for Finance at SCMPU.

SCMPU was the first campus in the MPU system to adopt RCM as a budget model, and as such one of the first public institutions in the nation to do so. At the time of adoption, the following three overarching principles for RCM were outlined by the MPU President:

1. All costs and income attributable to each school and other academic unit should be assigned to that unit.
2. Appropriate incentives should exist for each academic unit to increase income and reduce costs to further a clear set of academic priorities.
3. All costs of other units should be allocated to the academic units.

According to the AVC for Finance, these guiding principles are complemented by three operational principles. The first was to ensure that upon implementation there were no winners and losers. This meant that units were not to be disadvantaged by the change to RCM. Second, the balancing of income and expense must occur at the RC level. Third, all income generated goes to the unit that generates it.

## **Revenue attribution**

**Tuition.** All tuition income at the SCMPU campus is directly allocated to the academic school of instruction, regardless of level. In practice this means that if the School of Science teaches a Biology 101 course, all the tuition income generated by that class goes to the School. This is true for the academic year and for any summer sessions and applies to undergraduate and graduate students. According to the AVC, this clear connection between credit hours taught and income is one of two key incentives inherent in the SCMPU model. In the words of the AVC:

Because of the fact that their revenue is driven by their credit hours, they [schools] are much more entrepreneurial in their approach. If the students aren't coming there's pressure then to change that and really deliver what the students and the market want.

In practice, this means that schools have become more attuned to the enrollment patterns of students in their courses. They are more responsive to popular courses by adding sections or seats to meet student demand. Conversely, many have established enrollment minimums for courses in order to better allocate the scarce resources of instructor time and classroom space.

**State appropriation.** When RCM was implemented on the SCMPU campus, the state appropriation was used as a plug number to cover the gap between the schools revenue and expenses. That was all that it represented. Some literature on RCM refers to this as the subvention pool. At SCMPU, it was meant purely to make all the schools balance their income and expense. This balance of income and expense at the individual responsibility center level is a key feature of the RCM model because it forces units to reconcile all of their own costs and revenues. The use of the state appropriation to balance revenue with costs allowed the institution to ensure no unit was disadvantaged by the transition to RCM as all began in balance. Over the

course of time there were several adjustments to the attribution of state appropriation to address budgetary issues, but at the end of the day the amount of state appropriation allocated to a unit was determined purely to achieve balance. In 2014, however, the campus made an adjustment in how it distributes any increases in the state appropriation from the state to the campus. In that year the state legislature's new performance based funding metrics yielded SCMPU an increase in state appropriations. In order to incentive good behavior among academic units that align with metrics for which the institution is rewarded, and to create a pool of new funds to support need based financial aid, SCMPU adopted the following scheme for new state money.

The campus receives their appropriation from the state. From the sum of all new performance based money the campus retains a portion to support need-based aid. With the remainder they divide it equally into three parts. This first is cost of living increases and this is allocated to each of the units proportionally. Then, they allocate the remaining two-thirds to the academic units based on each units' performance on the following two metrics: increase in degree production and student persistence. These mirror two of the most significant metrics which the state legislature weighs in their performance funding scheme. According to the AVC, this "...gives that incentive for everybody to be on the same page, going in the same direction." And if everyone is pushing to improve performance on these metrics, then the campus will perform better and generate additional state income.

**Indirect cost recovery.** Indirect cost recovery represents the funds from a research grant that are designated to cover the expenses associated with conducting the study. These expenses include electricity, technology, supplies, and other expenses that are borne by the institution. The SCMPU RCM model allocates these costs directly to the school that received them, less a 20% holdback- up to one million dollars- which is placed into a central campus research

infrastructure fund. For indirect cost recovery in excess of one million dollars there is a sliding scale for the campus holdback. The academic schools then have discretion for how they handle their indirect costs recovery.

**Gifts.** All gifts given to a unit stay at the unit level. This is true for both academic and support units.

**Cash reserves.** Any cash reserves remaining at the end of the fiscal year stay at the unit level. They are neither swept nor reverted back to the campus. In the words of the AVC, “One of the key pieces [of the SCMPU RCM model], the ability for schools to keep their funds, has really changed the whole mindset... and allows deans to really plan for a multi-year project.” In the old budget model the deans were “...really limited to spend it [that year’s budget] or lose it. They didn’t have the ability to address those bigger projects.” According to the AVC this, and the direct connection between credit hours taught and income, are the two most significant features of the SCMPU RCM model that incentivize deans towards efficiency and innovation.

## **Cost Attribution**

**Funding for support units.** Support units on the SCMPU campus are funded through assessments charged to the academic units. The three main drivers for calculating assessments on the SCMPU campus are: student full time equivalency (FTE); employee FTE; and cost per square feet of usable space. These drivers are used in different, though clearly defined, permutations for each of the units on the campus. It is beyond the scope and purpose of this paper to define the assessment process for each unit on the SCMPU campus. It is more important to note that each of the academic units pays an assessment to the central campus that

funds support units. The basis of the assessments are made known to each unit, and each unit plans accordingly based on their assessment driver.

**Funding for the “Common good”.** Defined by some RCM practitioners as a central fund, the SCMPU campus does have what they call a “Chancellor’s fund” to support strategic investments. This fund is controlled by the campus chancellor. The source of the money in this fund is tuition. The campus holds back one percent of total tuition revenue and puts it into this fund with the intent of funding strategic initiatives central to the mission of the campus.

### **Description of the academic schools**

#### **School of Engineering and Technology**

The School of Engineering and Technology is one of the two schools in this study, the other being the School of Science, that award degrees offered by Land Grant University. According to the School’s 2012- 2017 Strategic Plan, the mission of the School of Engineering and Technology is to “serve the [state capital] metropolitan area, the residents of [the state], and the nation by providing a high-quality learning environment informed through the discovery and dissemination of knowledge via the scholarship of teaching and learning, research and creative activities, and civic engagement,” (SCMPU School of Engineering and Technology website). The participants interviewed from the School of Engineering were the Dean, the Associate Dean for Research, the Chair of the Biomedical Engineering Department, and the Chair of the Technology Leadership and Communication Department.

**Academic departments and programs.** The School comprises “18 Bachelor of Science programs, and depending on how you count them 7 or 8 MS programs and then 3 PhD programs,” (SCMPU E&T Dean). There are seven departments in the School: Biomedical



Engineering, Computer Information and Graphics Technology, Electrical and Computer Engineering, Engineering Technology, Mechanical Engineering, Music Arts and Technology, and Technology Leadership and Communication.

**Performance on selection criteria.** The School of Engineering and Technology outperformed the campus medians over the five year period from 2009- 10 to 2013- 14 on the three objective measures used for selection to the study. These are changes over the measurement period in: student credit hours during the academic year (fall and spring semesters); total research expenditures; and total budgeted expenditures.

During the five year data measurement period, credit hours for the School increased by 7.4 percentage points, which is 5.6 percentage points better than the campus median for the same period. While its' research expenditures actually decreased 6.5 percentage points over the measurement period, this is still better than the median dip of -12.7 percentage points. On the final metric, total budgeted expenditures, the School far outpaced the campus by almost 300%. The median percent change for the campus was 12.1% while the School increased by 36.4 percentage points.

**Opportunities before the School.** The dean of Engineering and Technology described the opportunities for his School in the current higher education environment in this way:

The opportunities are often directly related to the challenges and opportunities as a nation. Being a STEM school, we've got engineering and technology. There's a tremendous need in the nation to continue the pipeline of well-educated engineers and engineering technologists and related disciplines, so the opportunity is to grow commensurate with the need that the nation has to maintain the economic advantages that

we've had over the years. There's a lot of threats to those economic advantages. That's the key opportunity, is really trying to fill the nation.

Beyond just filling the pipeline of good engineers to meet national demand, the Dean is also cognizant of the significant contributions his school makes to the state.

Of course, for us, we're a big contributor to the state as well because a higher percentage of our students stay in [state] after they graduate than LGU or at MPU. So we do think about the state a lot in terms of the opportunities but also the nation in terms of advancing the STEM disciplines, both in terms of workforce as well as some of the key research challenges that the nation faces.

The School's Biomedical Engineering department chair observed a unique way in which Engineering and Technology is able to leverage its location, as well as its unique relationship to LGU and MPU in forging stronger connections in the capital city.

I think the advantages for us here being in the [state capital], there's a lot of opportunities that LGU tends to neglect and we take advantage of. Because the small or medium sized companies here in town don't generally raise, produce interest because it's not Microsoft or Intel, you know the big corporate national corporations if you will. That's where their [LGU] focus is in terms of interactions and not with small growth small companies like we deal with on a regular basis.

**Challenges facing the School.** Each school faces challenges in their work to fulfill their missions. Some are shared and some are unique. The Engineering and Technology dean highlighted one such shared challenge in this way:

I mean for us, I'm sure you'll hear this probably from most people that you would ask in similar positions to mine, is space. If you look at the SCMPU campus, given the rapid change of the campus especially in some of the general academic areas outside of the health and life sciences. The campus, outside of the School of Medicine, wasn't originally configured as a research campus, so we have challenges around our spatial infrastructure to support our mission, both the research mission as well as the rapid growth of our student population. Especially the more traditional student who is resident in the academic environment, maybe not necessarily living on campus but spending the bulk of their day on the academic campus, so the infrastructure to support that in terms of laboratories, and student collaborative spaces, and research space for faculties. One of my number one frustrations is trying to accommodate the space challenge that we have.

A department chair reiterated this point in a more succinct fashion when asked about the challenges facing the School. “Always money, money, and space. What else, what else? Where did you ever hear anything else,” (Biomedical engineering chair).

A second challenge is in maintaining and growing the School’s research portfolio. The selection data reveals that the School actually experienced a decrease in its research performance during the measurement period in terms of expenditures. The dean attributes this to a dependence on a couple of “gunslingers” who were prolifically successful at winning large grants. Some of these individuals have moved on and as a result “we’ve basically gone down in NIH funding since,” (SCMPU E&T Dean). To mitigate against this vulnerability in the future he has sought to bolster the Schools competitiveness for grants by attracting and investing in mentorship of the junior faculty.

... we have some really good new tenure track hires over the last couple of years who are doing well. When I came in, we had more I would say individual gunslingers, and I've been trying to work on more synergistic efforts through centers and emerging collaborative type situations as well as really investing in our tenure track faculty and junior faculty hires, so looking at building a strong foundation for the future so you're less vulnerable when that gunslinger picks up and goes someplace else.

**Summary of key points about Engineering and Technology.** The School of Engineering and Technology is attuned to what drives its bottom line. The Dean has been in place for five years. He has focused the School's agenda on the importance of its research enterprise and growing the graduate program. To those ends the School seeks to leverage the demand for engineers with the opportunities present in their own faculty, on the campus, and in the city that surrounds it to offer innovative degree programs and engage in research.

### **School of Science**

The School of Science is the second of the two schools in this study that awards degrees offered by Land Grant University. The School recently conducted a strategic plan for its next five years. Included in the School's vision statement is the goal "To be known in the state and nationally as the destination of choice for students seeking the highest quality science education," (SCMPU School of Science Website). This statement is reflective of the Dean's belief that the school is committed to being the best place in the state to receive a science education. This is in large part due to the School's location.

There's no other environment in the state like this, right? Where you've got major hospital systems, the government, the population, the big business presence, to allow us

to basically say the campus is not really the campus, the city is the campus. The campus itself, like I said, has the medical schools, things like that, but really the city provides a learning environment. That's key to what we are.

The participants interviewed in this study were the Dean, the Associate Dean for Planning and Finance, the Associate Dean for Academic Affairs and Strategic Planning, the Chair of the Biology Department, and the Chair of the Computer and Information Science Department.

**Academic departments and programs.** The School is comprised of nine departments: Biology; Chemistry and Chemical Biology; Computer & Information Science; Earth Sciences; Forensic and Investigative Sciences; Mathematical Sciences; Neuroscience; Physics; and Psychology. The School prides itself on an interdisciplinary approach to research and teaching. As of the fall semester of 2014, there are 2,178 undergraduate, 274 masters, and 221 PhD students in the School. This is a 16% increase in total enrollment from 2009.

**Performance on selection criteria.** The School of Science outperformed the campus medians over the five year period from 2009- 10 to 2013- 14 on the three objective measures for selection to the study.

During the five year data measurement period, credit hours for the School increased by 7.8 percentage points, which is 6.0 percentage points better than the campus median for the same period. Research expenditures increased 8.8 percentage points over the measurement period, which is 21.5 percentage points better than the median dip of -12.7 percentage points. On the final metric, total budgeted expenditures, the School far outpaced the campus by 19.4 percentage

points. The median percent change for the campus was 12.1 percentage points while the School increased by 31.5 points.

**Opportunities before the School.** The School of Science believes strongly in leveraging its resources and location to maximize their potential. This includes the diversity of its academic departments as a means to engage in interdisciplinary academic programs and research. Innovative new degree programs are meeting with success. “At the intersection of psychology and biology we now have a new undergraduate neuroscience degree which is going gang busters,” said the School dean. This program brings together faculty from math, biology, and psychology. According to the Chairman of the Biology department the program is “... growing hugely and is bringing new students to campus.”

The interdisciplinary approach is yielding returns in research awards as well. For example, a member of the math faculty was recently part of a team that won a National Institutes of Health award to research Huntington’s disease. “There’s not many math departments around the nation where you would go and you would find a fair representation of NIH funding. But again that reflects us working in our environment, right? This is a life-health science rich environment,” said the Science dean.

**Challenges facing the School.** Not unlike Engineering and Technology, the School of Science faces space constraints. In the words of the Biology department chair, the issues are:

Space, space, space, and then money, but mostly space. We have shortage of research space. Our labs are very crowded; we are limited in hiring new faculty. Even for the number of students we have, we could really use to have four or five more faculty in the

department to spread the load out a bit, but there's no place to put people, and that's office space and lab space. It's been constrained.

The space issue, specifically for laboratories, creates a real tension for the School because of its commitment to providing undergraduates with real research experience. They view undergraduate research and lab experience as consistent with their mission of providing the best science education in the state. But as the school grows and space is constrained, it becomes difficult to get all of them into the lab.

It's hard to meet the needs of all the students. It [lab experience] absolutely, that's one of the hallmarks, I think of our school. That we do it and that the students... are able to get into those labs... [They] have such a different experience here then they might have down at MPU. It's just, the masses of students, it's harder. What happens then is the cream of the cream of the crop of our students, get into those labs. Faculty will want to work with the best students. There's probably a whole lot of other students that could really benefit from that experience. It's hard to get it to them.

Another issue is internal campus competition. The chair of the Computer Science department knows his is a field that is in demand and enrollments are up. He must compete not only with other universities, but with the flagship partners of SCMPU and other schools on the SCMPU campus. All are trying to get into the mix and offer their own IT courses, thus attracting students to their majors.

In [the state] you have several bigger universities. LGU and MPU have bigger computer science departments, and of course you compete for the same student pool. Within the campus you also have multiple IT units, and other schools want to get into this field.

Because of the enrollment increase, I think every school started to build their own program in this area. So, you've got the internal competition as well.

**Summary of key points about Science.** The School of Science has a good handle on what drives its bottom line: undergraduate tuition and research grants. To attract undergraduates they have developed a new neuroscience program and hired a staff member to do undergraduate recruitment. They leverage their academic diversity to encourage interdisciplinary approaches to research. They recently completed a strategic planning process and named an Associate Dean for Academic Affairs and Strategic Planning to hold the School accountable to the metrics identified in the plan. Like the School of Engineering and Technology they are bullish on leveraging the life science opportunities inherent to the campus and the surrounding city to burnish their teaching and research goals. The dean has been in office for almost five years.

### **School of Social Work**

The School of Social Work is the third school in this study. Its degrees are awarded by Midwest Public University. The School is unique from the others, and its peers at MPU, in that it is a “system school”. This means its courses are offered on all of the campuses of MPU and are led by a single dean and administration. The dean of the School of Social Work is responsible for all aspects of the School on all campuses throughout the state. The School is headquartered on the SCMPU campus where it was founded in 1911. The mission of the School is “excellence in education, research and service to promote health, well-being, and social and economic justice in a diverse world,” (SCMPU Social Work website).

The commitment to excellence is driven by a very engaged dean who is respected by the faculty and viewed as very much in control of the School. He is in his sixteenth year as the dean.



In that time, the School has increased its ranking in US News and World Report from 114 to 26. He attributes this to a balanced approach to the missions of teaching, research, and service.

I tell them [the faculty] I want to be in the top 20, I don't want to be in the top 10. They look at me skeptically. I know what it takes to be in the top ten. I don't want us to have that kind of school where you have a very competitive environment. I like the balanced approach we have-- balanced teaching, research, service.

The participants interviewed in this study were the Dean, Associate Dean, Chair of the Labor Studies Department, and a Professor who is also President of the Faculty Senate.

**Academic departments and programs.** The School of Social Work is comprised of the Social Work program, leading to Bachelors, Masters, and Ph.D. degrees. The school launched an online MSW program about three years ago. The School also houses the Labor Studies department. This department offers a Bachelor of Science in Labor Studies, Associate of Science in Labor Studies, a Certificate in Labor Studies, and a Minor in Labor Studies. It was transitioned into the School within the last three years.

**Performance on selection criteria.** It is important to note that while this is a system School, the data used for selection are based on the School's performance on the SCMPU campus, and are not reflective of the other campuses. The School of Social Work outperformed the campus medians over the five year period from 2009- 10 to 2013- 14 on the three objective measures for selection to the study.

During the five year data measurement period, credit hours for the School increased by 14.1 percentage points, which is 12.3 percentage points better than the campus median for the same period. Research expenditures increased by 47.7 percentage points over the measurement

period, which is 60.4 percentage points better than the median dip of -12.7 percentage points. On the final metric, total budgeted expenditures, the School outpaced the campus by 13.0 percentage points. The median percent change for the campus was 12.1 percentage points while the School increased by 25.1 percentage points.

**Opportunities before the School.** A core strength of the school is its faculty, a point made by both the dean and the chair of the faculty senate, who has been on the faculty for twenty-two years. “We probably have the best faculty we've ever had and we are engaging in a lot more external grants and catching external funds than we probably have historically in the time I've been here,” (President of the Faculty Senate.) The dean points to the retention of his faculty as an indicator of continuity and high ability in the School. “In my 15 years on this campus, I've lost 4 faculty members who have gone elsewhere for jobs,” (Social Work dean). The losses are so few and rare that he is able to list who left and for what reasons.

Changes in the health care landscape as a result of the Affordable Care Act have heightened demand for Social Work graduates, which is an opportunity for the School.

Health care...is a huge issue and even integrated health care with behavioral health. Right now, there is a huge demand for our graduate students. After a period of really being dormant for a while, mental health for example and addictions, a lot of those places are really hungry for our graduates and they are more actively reaching out to us. That's a pretty big thing.

Another opportunity is the location in the state capital. The School's partnership with the state Department of Child Services is a national model for new and continuing social work education and will be discussed in more detail as an innovative practice in chapter 5.

**Challenges before the School.** A primary concern is managing growth. The School is in the process of hiring a statewide recruitment and career services coordinator to create a sustainable pipeline of students. This is important because, while it outperformed the campus over the measurement period, the school did experience a slight dip in credit in its most recent year. According to the Dean, “We've had a blip on the radar this past year, but we're going to come out okay. I just hope it's a blip, it could be a new trend, and if it is, we'll manage that, too.”

**Summary of key points about Social Work.** The School of Social Work has a clear-eyed vision of who they are and where they fit into the higher education marketplace. As the flagship Social Work school in the state they seek to be on the cutting edge of innovation to mitigate the potential for disruption from competing institutions in the state. They have adopted an online degree program for Master's students and are investigating the possibilities at the undergraduate level. As a player in a field that is not known for high compensation, the School has formed a model partnership with the state to improve job placement upon graduation. This allows them to go to market with the message that not only will you get a Top 30 Social Work education, you will get a job. The direction of the School emanates from the dean's office, but it is concert with a steady, engaged faculty shaping the curriculum. The dean has been in his position for more than fifteen years.

## **Conclusion**

The purpose of this chapter was to provide context on both the institution and the three schools selected for case analysis. This chapter offered an overview of the institution where the study took place, including a description of the institutions budget model. Each of the three schools were described in order to situate the reader with a better sense of the school, its place in

the higher education environment, and the current opportunities and challenges before the school from the perspectives of those interviewed. The next chapter presents the major and minor findings of this study.

## **Chapter V: Findings**

In this study I examined three academic schools at an institution that uses a RCM budget model. These schools were selected because they outperformed their peer schools on three objective measures of entrepreneurial behavior over a five year period: percent change in academic year credit hours; percent change in research expenditures; and percent change in total budgeted expenditures. In this chapter I answer the following research questions posed in chapter one: (1) To what extent does entrepreneurial behavior exist within academic schools at a university that uses an RCM budget model? (2) What does this behavior look like? The evidence provided to answer these two questions helps inform the answer to the third research question, “What are the characteristics of entrepreneurial academic schools that would be beneficial for their peers to know?” that is discussed in more detail in the analysis section of chapter six.

Using Clark’s study as a conceptual framework, these schools were selected precisely because their performance on the objective measures indicates the presence of entrepreneurial behavior in the school. The perceived presence of entrepreneurial behavior is further validated by the Associate Vice Chancellor for Finance who identified each of these schools as examples. The real work of this study is to uncover the extent to which each of these schools acts in an entrepreneurial way. To better understand this phenomena, the research questions in Appendix A as well as the continuum in Appendix B provide the framework for answering the extent question. The questions, to what extent are these schools entrepreneurial and what characteristics of entrepreneurial behavior would be beneficial for RCM peers to know, are answered in this chapter through the discussion of the three major, and one emergent, findings. The major findings are: a) entrepreneurial schools understand and leverage the inherent incentives in the institutions’ RCM model; b) entrepreneurial schools recognize and capitalize on

the environment within and around the university; and c) entrepreneurial schools are committed to increasing their research performance. These are classified as major findings because of their pervasive presence in the interview responses of participants in all three academic schools. From these three an additional finding emerged. This emergent finding is that the external environment, such as contextual constraints, societal trends, and how a school perceives the challenges and opportunities in this environment, impacts the strategic responses of each school.

The chapter is organized into two parts. In the first part the findings, and their supporting data, are presented. This will illuminate what entrepreneurial behavior looks like. Then, in the second part, the data are applied to Clark's (1998) framework to analyze the extent to which each school is school is entrepreneurial. This analysis answers the primary research question about the extent to which each school is entrepreneurial.

## **PART ONE: MAIN FINDINGS**

### **Finding 1: Entrepreneurial schools leverage the incentives inherent to the institutions'**

#### **RCM model.**

In describing RCM on the SCMPU campus, the Associate Vice Chancellor for Finance stressed that there are two characteristics that are key to the model. These were described in detail in chapter four, but they merit a brief review here. The first key is the direct attribution of tuition revenue from credit hours taught to the school of instruction. Because of the fact that schools revenue is largely driven by tuition this focuses the schools attention on the courses they are offering. The second key is that unspent funds at the end of the fiscal year remain with the academic school as a carry-forward cash reserve. Each of the schools in this study identify these two characteristics as drivers in their behavior and their planning. Specifically, all three deans

spoke to these two factors in their responses to the interview questions. We begin the section by presenting the data for this finding with detail from each school on the former, the direct attribution of tuition revenue. We then move into discussion on the latter, the ability to retain and carry-forward their own reserves.

***Direct attribution of tuition revenue.*** The dean of the School of Engineering and Technology points to the growth in enrollments as central to their ability to fund the strategic priorities of the School.

We've been fortunate in the sense that over the last five years our budget's been growing, because we've had enrollment growth. We've had significant growth in the out-of-state portion of our enrollment too, and this is critical for growing our budget which then empowers you to fund certain strategic initiatives. We could talk all day long about we need to grow the size of our graduate programs, but if our credit hours were going significantly down, then it becomes just an aspiration with no mechanism to fund the aspiration.

This direct attribution of revenue encourages schools to be proactive in response to shifts in the student marketplace. In the School of Social Work this meant entering into the online marketplace. The School was an early adopter and has been offering a bachelor's degree in Social Work for a few years. It only recently entered the online market, but it took a few years and some incentives from the Dean to win over the faculty.

I wanted to get this [an online MSW degree] started. I kind of joke and say that I have such a good relationship with the faculty, I could lead them into a burning building and they would follow me, but I could not lead them into an online Master's degree. There

was a lot of push back and resistance. The undergraduate program is small and people are really techno-savvy and willing to move forward with that. The master's program was a different kettle of fish. I realized faculty would never vote to approve an online MSW program. You had a whole array of faculty-- you had a few believers, a lot of non-believers, and a lot of people stacked in the middle. Faculty were particularly skeptical about doing practice courses online. Practice courses involve teaching counseling and therapy. How do you do that online?

There were a lot of skeptics. What I did was provide incentives-- \$5,000 to every faculty member if they would convert the course they teach face to face to an online course.

They then had to teach it. What happened was the faculty who did that and taught online realized the value of online education. Probably about four years later, we were able to go back with a program to the faculty and they voted for the online program. That's how we got MSW direct. We had to do that. I remember one faculty meeting telling the faculty, I'm not going to be here forever. Look around, look around this room. I firmly believe if we don't go down this path and have an online MSW program, half of you will be gone in 15 years. This faculty will be half the size that it is now, because people are moving forward with online education. We need to be in that marketplace, and if we're not, we're going to lose, and we're going to lose big time. I said I'm not requiring anybody to teach online. All I want is for the school to have an online program, faculty that want to teach in it will teach in it. We'll hire people to specifically teach online if we need to. You're not going to be impacted that way. I said, in my mind our budget, our future, the future of this School depends on us having an online MSW program. It's saving us now, believe me.



The other schools in this study, Science and Engineering, have also been responsive to shifts in the marketplace. For the School of Science there is a clear theme among those interviewed that undergraduate tuition is the primary driver of revenue for the School. In the words of the Chairman of the Biology department:

Grad tuition has been, I think, important, but undergraduate tuition is the major driver, so we're very sensitive to whatever happens to undergraduate enrollments, and what the trustees do with the tuition.... Really, the number of credit hours that we teach is the major driver that we have to worry about.

To this end, Science has been intentional about developing compelling majors, such as neuroscience and forensic science. The Chair of Biology continues:

...Together with psychology, we started a neuroscience undergraduate major. That's been very popular. I think its helped recruit a lot of students to the school... Biology is a partner in the forensic science program, and they've been pretty successful with non-majors. Undergraduate in forensic science classes, sort of intro to forensic science, which, you know, gets the CSI ...population... there have been some big gains in enrollment in those classes.

The Associate Dean for Academic Affairs and Strategic Planning views the increasingly interdisciplinary nature of the sciences manifested in the form of the neuroscience program as a real benefit for the school.

The opportunities I think are that science is becoming much more inter disciplinary. That's the way science is going. We for instance have two programs in the school that are inter disciplinary. The forensic science program has been around for a long time. I'd say

15. 10, 15 years. It's mainly chemistry, but it's also chemistry and biology. That's forensic and investigative sciences. How do we apply science to understanding criminal behavior. The DNA and all that kind of stuff.

Then we also have a new program called ... It's a neuro science undergraduate program. That's bringing together people from math, biology, psychology and that's really an opportunity to bring in new students to campus.

With this in mind the School has a new focus on the direct admission<sup>5</sup> of undergraduate students into the School. They have hired staff with responsibility for undergraduate recruitment and admissions because, in the words of the Dean, "...our budget demands it." In the estimation of the Assistant Dean, 80% of the aforementioned neuroscience program is comprised of direct admits into the School of Science. From the dean's perspective, the School has a compelling story to tell to any student interested in the Sciences.

...If we don't move ahead, if we don't grow, we move back, right? The status quo is death for us, so that's one thing. But the other thing is that we need our message to get across, if you think about what LGU or what SCMPU is, yes, they've seen remarkable changes and so on but the trajectory there compared to the rate of change at SCMPU is very different, right? SCMPU it's not only volume but the nature of the beast is dramatically different.

But the change in the nature of the place and the nature of the students, and what we will do is dramatically different, right? The research presence we have, the type of students

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<sup>5</sup> This means that students who are accepted to SCMPU can declare a major in Biology, for example, and begin taking courses in the major immediately.

we attract, I mean if you look at our strategic plan what is our vision? Our vision is to be the school of science of choice for a student from [the state], right? That's no pie-in-the-sky. I will take any set of parents who will sit down with us here and I can make that argument, I can make the argument ... Especially for someone who is thinking about being premed or pre-law or pre-dentistry or something like that, right? Pre-grad school, right? There is no other place in the state that can offer what we offer to a science student, right? Now it will be different, it won't be football and fraternities, okay? There are some students who are not a fit for us and that's great, that's why it's nice that people around the state have different choices. But if you've got that student who is pretty clear on their goal and knows what things they want to pick up on the pathway to that goal we can provide that like no other place. If she can get a student here who says "I want to be a cancer doctor" I'll say "Let's go look at 300 cancer labs."

In a different way, the School of Engineering has been responsive to changes in the student marketplace. In their case it is the recruitment and admission of international students. This isn't a new decision. In fact the current dean credits their success<sup>6</sup> in this marketplace in this marketplace to the previous School leadership, MPU's history of international engagement, as well as the overall attractiveness of STEM degrees to international students.

This school has a long legacy of a lot of activity in the international area. Approximately twenty-five percent of the international students on this campus are in our school. That was one of my big surprises when I joined as Dean was most engineering schools, and we're broader than an engineering school, have a significant international population at

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<sup>6</sup> For the most recent period the data is available, Fall 2010, international students accounted for 21.4% of the School of Engineering's total enrollment. For comparison, only 4.1% of the total SCMPU student body is international. In the Fall of 2015, the percentages were 26.7% and 7.0% respectively.

the graduate level, but I was surprised by just how significant our international population was at the undergraduate level. Part of that is because the prior dean deserves a lot of credit for that as well as many others in the school... MPU has a strong legacy in the international arena. Our school has benefited from that. Our school has been a big part of that. One individual that's in one of our departments that's my director of international activities, he was in the international office down at MPU for many years... If you would ask me, "What's one of the key benefits of the relationship with MPU?" I would say it is the emphasis in the internationalization area. The legacy there has benefited this school tremendously. We continue that. I think we were doing well, and we've accelerated our efforts internationally. For example, I was in Iran and Malaysia. That's why I had to put you off so long. We've got a lot of activities in that area.

The success in the international space is echoed by each of the other members of the School that were interviewed, most succinctly by the Chair of Technology Leadership and Communication.

We have done a very good job over the last, probably 25 years, investing in international student recruitment, investing in that area because we see that there's a demand for it, there's certainly a premium price that is paid for it and we have the capacity to offer it.

***Carry forwards.*** The ability to retain funds at the end of the year encourages academic schools to be prudent in the management of their expenditures. The Technology Leadership and Communication department chair in the School of Engineering & Technology describes this as the responsibility component of RCM.

The big "R" in RCM is responsibility. You're held accountable and you've really got to make sure that you're driving revenue, you're containing costs, you're putting money

away to reinvest for the long-term and you're meeting your current obligations as an acknowledgement towards the future.

This echoes the sentiment of his dean, who views the carry forward as a key facilitator of strategic thinking. He juxtaposes this against a traditional budget environment which stifles long-term planning due to a requirement to spend all money in the year it is allocated. In the words of the Engineering Dean:

One thing that RCM allows you to do is to carry forward revenue from one fiscal year to another. In some universities that are a more traditional budgetary environment, you're allocated your budget. If you generate more revenue, the decision on how to use that revenue stays up high somewhere within the university administration. Alternatively, if you make good decisions and you're able to actually use less resources than you were budgeted, then that's often swept up and spent because it undermines typically the campus' position to the state legislature or others if you have carry forward. It's similar to the military environment. You want to spend every last penny before the end of the fiscal year. Otherwise, you're going to undermine your request for more funding. You have the use it or lose it mentality. That comes from more of a traditional budgetary environment, but under RCM you can carry forward. You can think about your strategic initiatives that may need funding. Then you can carry forward, accrue the funding that you need to make those strategic investments without the fear of a quick political assessment that you're not spending the money that you should be spending, and therefore you don't need any more. In fact, we're going to cut your budget.

The biomedical engineering department chair also identified the carry forward as an empowering feature of the RCM model.

The point I would make is, that because our accounts don't get zeroed out in a year and start over every fiscal year, there's a huge float in resource. It may be small pots of money everywhere down to the faculty level. The Dean does feed back some of the percentage of the indirect costs to the faculty that generate external funding, you know and grants and stuff. So faculty have their little pool of money that they can use to buy a piece of equipment or go on an international trip, save it until bad times between grants or something like that. And so it allows managers a great deal of flexibility to allocate resources and to keep the right resources. So this allows us to make critical investments as needed. Whether it's cost sharing with a grant opportunity. Whether it's investing in start-up funds for new faculty. You know we don't really have a campus resource for start-up funds? And now, you know, in biomedical engineering, you know this is not unlike costs you might see at a medical school. It costs, you know, maybe half a million to a million dollars just to get a young investigator establish and recruiting costs... So it [the carry forward] helps you continue to economize and or to at least save, because not every strategic initiative is solved in a year's time frame. So you know you might want to save some money to buy a large piece of equipment or invest in a new faculty member. And you may not be able to do that instantaneously. So being able to accumulate funds gives you that opportunity to do that so it's a better management tool for sure.

In the School of Science carry-over funds were used for renovations and a new building. The carry over feature is particularly beneficial in light of the financial downturn between 2008 and 2010. New university buildings were not a funding priority. But the retention of unspent funds provided the School with a mechanism to plan and partner with the School of Engineering to build a new building to accommodate their growth. In the words of the Science dean:

We have a strong healthy relationship with engineering, that building<sup>7</sup>, you should have a little look at it, that building was built with zero state funds and no tuition dollars, okay?

If you look around university campuses in the state and what not you won't find many examples like that outside of that building and the med school. That building is 75% science by space and by funding and then 25% engineering. We can do this working through RCM. However, because of a change in MPU and state policy and so on, not only did we get the pleasure of paying for that building but we also get the pleasure of paying for the R&R and operations. We have to budget that.

Using carry-over funds to plan for the future is a strategy also employed by the School of Social Work, who used their funds to partner with the central administration to build a new building. The dean describes his approach in this way:

I grew up in Appalachian poverty. I never believed in living beyond one's means. I wanted to make sure we always saved for the future. Quite frankly, when I came to this School, there wasn't enough money to Xerox or travel or do much of anything. As we grew, I saved. I didn't go crazy hiring faculty. We built programs using quality adjuncts, and hiring good faculty modestly. We had modest growth in faculty, building programs, managing expenses, keeping the school administratively lean, and that was my strategy. As we started accumulating the money, then I realized that we could build this school. I want to build a new building, because what we had was inadequate. I started saving money so we could pay for that building. Frankly, the money that we had became an

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<sup>7</sup> The School of Science recently completed construction of a new building adjacent to their main building on the SCMPU campus.

impetus for central administration to create a building so that they could move. They didn't have any money.

What's telling in each of these examples is that these schools needed to use their funds to support their growth. Each of these schools is sensitive to the fact that their primary revenue source is student tuition. Thus they are sensitive to changes in the marketplace and react strategically to reach and recruit students. The responsiveness each of these schools demonstrates is facilitated by, and strongly related to, their willingness and ability to leverage their environment. These findings are presented in Major Finding 2.

**Finding 2: Entrepreneurial schools leverage the environment within and around the university.**

*(In total, twelve of the thirteen participants identified examples of partnerships either on campus or within the city and state that were key to their growth).* In one way or another each of the schools identified their location in the state capital, the largest city in the state, and the SCMPU's focus on life & health sciences, as a significant advantage that they sought to leverage. This took several forms. From creating an award winning partnership with a state agency, as is the case in Social Work, to leveraging the cities motor sports industry for new research and degree program opportunities (Engineering), or partnering with a local pharmaceutical giant for graduate programs (Science), each school is actively engaged in their surrounding environment. These programs are detailed here.

***Social Work partnership to develop the child welfare workforce.*** *(Three of the four participants identified the School's program with the State Department of Child Services as an innovative partnership for the School. Because the Dean describes it best, his quotes are used in this example).* In 2006, the School of Social Work launched an innovative partnership with the State



Department of Child Services. This program, called the State Child Welfare Education and Training Partnership, "...supports the high quality, consolidated and intensive child welfare learning and professional development system required to meet the workforce development needs of the State Department of Child Services," (Child Welfare program [website](#)). One goal of the program is to enhance the recruitment and retention of highly qualified family case managers to work in [the state]. The program is available to students in both the Bachelor's and Masters programs. Bachelor's degree students who are accepted into the program receive: full in-state tuition and fees during their senior year; an additional stipend to cover two semesters worth of additional training expenses; and job placement assistance at graduation (students are often placed as Family Case Managers in a local DCS office). Selected students are then eligible to receive financial support for their MSW through the program. Additionally, current DCS employees are eligible to enroll in the School's part-time MSW program. The Dean describes his motivation to develop this partnership in this way:

When I came here, one of the first things I did was to try to establish relationships with them [State Department of Child Services]. That took a cultural shift, too. People over at the state thought all I wanted to do was get my hands in the till. They didn't understand about IV-E funding<sup>8</sup> and how we could partner. [The State] was one of the worst states in the country for dealing with abused and neglected children and their families. I wanted to help us be better. I knew we could if we partnered with them. Like I said, they thought all I wanted to do was get my hand in the cookie jar. That wasn't my incentive at all. My

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<sup>8</sup> IV-E funding is "... the major source of federal funding for educating and training the child welfare workforce. The Title IV-E child welfare training program was created as part of the Child Welfare and Adoption Assistance Act of 1980 (P.L. 96-272) to support training in both foster care and adoption services," (National Association of Social Workers [website](#)).

incentive was let's make [the State] better. We have people here at the School who are experts in child welfare. Let's build some relationships. It took them a little time to make that happen and establish the trust.

Now we have a model partnership. We're doing things that other states aren't doing. [The State] went from being one of the worst states in the country to being a national model where other states are sending people here to see how we've done it... I believe part of the success is because of the relationship the School has with them. That's an important part of the shift. [Benefits] for the state include new worker training and some continuing worker training. We had programs where their employees can come and get their MSW's, there is federal funding for that, federal pass through dollars. We also have a program where we have undergraduates who can get their senior years paid for. They make a commitment to the Department of Child Services to be family case managers and serve in that capacity for a minimum of two years. We've infused a lot of social workers into the child welfare system. It's made a difference. They're also paying for workers to come back and get a MSW.

***School of Science culture of partnership and collaboration.*** (All four members discussed *strategic partnerships and an ethos of collaboration within the School*). The dean of the School of Science is bullish on the opportunities that are present in the local environment.

There's no other environment in the state like this, right? Where you've got major hospital systems, the government, the population, the big business presence, to allow us to basically say the campus is not really the campus, the city is the campus. The campus itself, like I said, has the medical schools, things like that, but really the city also provides a learning environment. That's key to what we are.

The Chair of Biology concurs with this sentiment:

The school's been in a rebuilding, growth phase, and that's partly smart management by Tom and Joe [past and current dean], but also being in the fortunate position of changes in the character of the campus that benefited the school, in terms of the kind of students that we were able to recruit, and the school being sort of at the center of the life health sciences growth on campus, I think. It's really helped the school out.

The culture of partnership takes many forms. The interdisciplinary, collaborative nature of the creation of the neuroscience and forensic science programs described in finding one represents one example of internal partnership. An example of an external partnership is the School's 2014 partnership with the SCMPU School of Medicine and a capital city based worldwide pharmaceutical giant. The program, called PGGRAD (Pharma Giant Graduate Research Advanced Degrees), helps PG employees obtain advanced degrees in an existing graduate program at the SCMPU School of Science or Medicine. An end goal of the program is to "foster collaborative relationships that result in strong, publishable thesis work," (program press [release](#)). Students in the highly selective program are mentored by an advisor in either the School of Science or Medicine and a sponsor from the PG Research Laboratories. Tuition for the program is paid for by Pharma Giant.

The Chair of the Biology department has seen immediate results from this partnership by way of research funding for his department.

That really started in biology in an informal way, so over the years biology has had several PG employees as graduate students over here, and so the PGGRAD is sort of a formalization of what was going on already. That's been really good. It's been really good connection, and it's really good for the PGGRAD employees in terms of advancing their

careers, but it's also led to funding for some of our faculty, from PGGRAD to ... Based on projects that have grown out of that, out of that partnership. Right now, these are all PhD students, and so the partnerships are really focused around that research work. So they're working on collaborative projects between the supervisor at PG and one of the faculty labs here, and sometimes, and usually most of the experimental work is done at PG. But some parts of it are done over here. It depends on the particular project, but in at least three cases that's, recently in the department, that's led to funding from PG for the lab here to support an extension of that project.

Another example of an innovative partnership is the Biology departments' partnership with the state's community college system on an undergraduate Biotechnology degree. The chair of the Biology department describes it in this way:

We have a biotechnology undergrad degree that's a partnership with [the community college], because students do the first two years of the degree at [community college], and they get an associates from [community college] on the way. And then, if they want to get the bachelor's degree, they come here for another two years, basically do up a little biology classes, and get a bachelor's in biotechnology. It's about seven years old. ... I think that's a really good partnership, the particular ... The classes they take at [the community college] are really good because of the guy who runs it, so they come over here pretty well prepared, and they're also very successful at placing their graduates.

The Computer Science chair describes the environment in less-bullish terms for his department. "I don't think our industrial partnerships is as active as it should be." He attributes this to the state being not very high tech. Thus, for his department, partnerships occur more along the lines of internships for students at local firms.

***Embracing the automotive industry.*** (All four participants in the School of Engineering and Technology discussed the various forms of strategic engagement with the automotive industry).

To understand the School of Engineering's willingness to wade into the motorsports space, it is worth revisiting the underlying values that drive the School. In the words of the Dean:

A key value is thinking of [the state] first, the world second. I do think that's a value that it may not be publicly stated, but I think it's different than, say, the main Land Grant University campus. I'm just using that because of the portfolio that's similar. Where I think with LGU they think the world first and [the State} second. They may not ... That's not going to be on their windshield of course, but if you're talking about a value that's operationalized, I think that's a fair way of saying it. That's always very important to us. If you think about the relationships we build with the community, with the industry that has large presence in [the State], that's always a major driver, driver for us, even though our graduates go everywhere. We do have a larger percentage that stay in [the state], contribute to the workforce needs of [the state]. That's a prime value that we don't necessarily put in bold in our strategic plan and in our vision statement. They tend to be more generic values, but that's one that drives a lot of what we do.

With this value set in mind, it is time to turn to a discussion on the Motorsports Engineering program which, in the words of the dean, is "...a quintessential example of 'How do you leverage the strengths of the primary area you serve?' I couldn't think of a better example than Motorsports Engineering in [Capital City]." The dean describes the development of the program in this way:

Quite frankly, it was a risk to go there because if you're the first and the only, that's risky, but I would also credit to some degree RCM for helping enable such a risky type of

endeavor as creating a Motorsports Engineering program. It started out more as a technology program, as more of a certificate. Then it grew into a BS degree in engineering. We've graduated our first graduate since I've been here. I joined in 2010. I want to say 2011, 2012 we produced the first graduates. Motorsports Engineering, the closest field to it is mechanical engineering, so we actually graduated a few students ... I think it was actually approved by the [State] Commission of Higher Education around 2008, so you would think ... It takes four years to produce a graduate, but I think we produced a graduate before 2012 just because we had some students in Mechanical Engineering that were able to even do a double degree in Motorsports Engineering and graduate sooner, but that's the history there.

The Chair of the Technology Leadership and Communication department offered these additional reasons why this program made sense for the School:

Well, I think motorsports is a good example because that's one that would attract students to the program where there's not a lot of competition or duplication of that kind of program. It's a very distinctive program so we're attracting a lot of non-resident students to that program who are perhaps, perhaps, willing to pay a premium to get that access to that program because it's not available in their home market. ... We didn't create that program for that specific purpose, we created it because it is a program that is connected to an economic cluster in our market. Motorsports is an economic cluster in [the state]. We created the program for that need. The side benefit of that is that it helps to attract students who may consider SCMPU for whom SCMPU otherwise wouldn't be on their radar and so they may be attracted here because of that particular program.

I don't think the motorsports program was created with the idea, let's create this program solely to get premium tuition from out-of-state students. I think that was a factor in it, but I think the main factor was there's an economic development cluster in our region. We have the capacity to do this. It aligns nicely and oh yes, by the way, we can also attract some students who would otherwise not normally come to SCMPU.

The embrace of the automotive industry extends beyond the motorsports engineering program. The School hosts a research institute on Active Transportation Safety. The School is engaged in a research partnership with the [State] Economic Development Corporation as well as a local manufacturer of the IndyCar Chassis. The partnership brought the world's most advanced driving simulator to a nearby suburb, which allowed for research and student internship opportunities. Another automotive partnerships include a \$45 million dollar grant from Toyota, which is discussed more in Finding 3.

**Finding 3: Entrepreneurial schools are committed to improving the research performance of the School.**

*(Of the 13 people interviewed, 12 indicated improving research as a focus of the School. The specific strategies vary across schools).* The third major finding is that interviewees in each school, particularly the deans, stated a desire to improve the research performance of the School. Each school has its own definition of what improvement means for them, but there was definitely a striving theme present in each school. In the School of Social Work the goal was to become respected for its research. In Engineering, after two high performing research faculty left the School, strategic efforts were made to improve the success rate of the existing faculty in securing grants. For the School of Science they leverage their diverse disciplines to forge an

interdisciplinary approach to research resulting in successful grant applications. The specifics of these approaches are unpacked in the following paragraphs.

***Becoming respected researchers.*** *(Of the four individuals interviewed, 3 discussed how the School of Social Work has evolved to focus more on research).* The School of Social Work is included in this study because it has outperformed its peers in research expenditures over the five year measurement period. However, a quick glance of the data shows that research is not a significant focus of the School. The President of the Social Work Faculty Senate sums up the Schools values system in a way that provides a glimpse into how they had perceived the role of research:

I think we are a school that very much values teaching and community service. That's in our mission statement. Our mission statement speaks to preparing practitioners for the 21st century. This school is not a “publish or perish” school. We are expected obviously to publish and do research, but we've been pretty mission-driven.

This attitude has shifted in recent years for a few reasons. First, according to the President of the Social Work Faculty Senate, is an increased focus on research from the SCMPU administration.

I think as SCMPU as a whole has made it perfectly clear that research and scholarship, and publications have become increasingly important. I think the message is certainly clear among faculty here that good teaching alone is not going to be enough to survive. We are far from publish or perish but let's just say that, to go back to your question, there are people at the beginning of my career here that never would have made a promotion in tenure in today's environment. I think most of us are comfortable with that, by the way. I



am not saying that the gauntlet has come down. I think people feel as if that's right. You are in a university setting. It's a big school. You are supposed to do research and publication. You should like to do it and they would like you to capture some external funding. I think that's clear. That's the strategic direction, I think, that's the message I think people should have.

He also attributes a change in the composition of the social work faculty from former practitioners to trained researchers as a catalyst towards improved performance in research.

This [SCMPU] is very much like a school of social work was back then [when he started more than 20 years ago], which was there was the transition from social work faculty being people who were practitioners who were out in the community and had reputations who moved within the university. Versus a new cadre of PhDs, trained more in research and publication, who had practiced but brought that orientation in.

This sentiment is echoed by the Associate Dean.

For the most part they had a good many PhDs before and the programs were much smaller when I came. There was not a lot of research potential when I came here. There were three people maybe with high skills in research. That's grown enormously over time. Our faculty do both qualitative and quantitative research. In hiring, we tried to balance that to make sure that we continue to have diversity in research methods, as well as faculty areas of expertise.

In an attempt to spur on research productivity early in his tenure, the Dean offered financial incentives to the faculty.

I started putting incentives in place for things. If people got grants and they paid 10% of their salary and their benefits, they got a course release. You're not going to find that anywhere, 10%. We still have that. Most places, its 25% or 30% in order to buy out of a course. I made it low because our teaching loads are pretty high, five courses a year and all that the faculty have to do. I wanted to make it low to reward those people and make it easy for them to buy themselves out and do that kind of work. With indirect cost on grants and contracts, 80% of that comes back to the schools. I gave faculty 20% of the 80% that we got. I used that to stimulate getting external funding.

I gave faculty \$5,000 for just writing a grant and getting it through the university's system... I wanted people, first off, to get in the habit of writing grants. There was a big spike in people who were submitting grants. A lot of it was garbage stuff, but I didn't care. They were at least active. I set some money aside for that. We did away with that because that didn't work. The release time and the sharing of the indirect costs were more successful. I need to get people thinking about how to do it, thinking about looking at grant opportunities, doing that. When I came here, it was embarrassing. We had \$260,000 in external funding. This is a major school of social work, at a research university. It was embarrassing. When I came here, this was a teaching place. People didn't think about getting grants or getting money for research. They didn't think of that at all. You had to hire the right people who would be able to write those grants and get funding... I got beat up quite a few times with people thinking I wanted to turn this into some kind of research powerhouse. I just wanted us to be respected.

***Adding depth to the research bench.*** (All four of the participants interviewed in the School of Engineering and Technology discussed this). The Dean of the School of Engineering and

Technology noticed when he first arrived that the School had experienced success in its research productivity, but that the School was largely dependent on two very prolific researchers who have recently departed. When asked about the transition now that these individuals are gone, this is what he said:

I think we've been more focused on the importance of the research enterprise, on the importance of growing the graduate programs. Those are two big priorities there. Even though we've had some challenges with expenditures, for some of the reasons I've cited in terms of losing a gunslinger or two, I think we're building a really solid, solid foundation to grow our research enterprise even though we're in a very competitive environment. We've done a lot to align around our strengths and niches and research where we can compete at the highest levels. Those have been the main changes I believe in the school over the last five years, is the growth in the graduate programs, strengthening our research and our focus areas, retaining top quality faculty. We have other universities that come after our good people, and we've been successful. We've lost a couple here and there, but generally speaking we've done very well with retention given the environment.

When he talks about building a solid foundation, he is referring to his recent decision to split the Associate Dean for Research and Graduate Programs into two different positions, one Associate Dean for Research and another for Graduate Programs. This allowed each to focus on two very vital aspects of the School. The Associate Dean for Research has set about building out an infrastructure that nurtures and supports faculty research. His high level assessment is as follows:

The thing that I think is even more important to look at [compared to just looking at expenditures] is whereas maybe five to seven years ago, tended to be a few very large

projects that few top investigators brought in. But now, I think it's become much more distributed and we have a lot more people that are bringing funding. Maybe not those huge single shot projects but ... we have, I think, much more depth than we had before. I find that very reassuring that it tells us that we are on a good trajectory. A lot of those are relatively young, new faculty, junior faculties. They have a lot of potential to continue growing and moving forward in their research endeavors. We're, I think, on a very good track in terms of research growth but we do have some very large awards that are very significant. We've had million plus level awards from the government, from the army, from the navy in the past and we currently have very large project from Toyota. We continue to have a very diverse set of sponsors and diverse fields and disciplines, in which we are having research activities and funding.

The research environment, particularly the federal funding market that engineering plays in, is very competitive. In the words of the Biomedical Engineering department chair:

It's hard. This is the hardest time we've ever had in our country for young faculty to break into, you know, just getting their first grant is considered a major accomplishment. Sort of a tenurable accomplishment if you will.

The Technology Leadership and Communication department chair echoes the sentiment of the stiff competitive environment and advocates for the School to diversify its funding sources:

We really have to really do a better job of diversifying the sources of funding. It's certainly prestigious [federal funding] and we want to do it because it's a good reputational piece. It is good money. We want to keep doing the federal piece but the

problem is everybody's ... The pie is getting smaller and everybody is going after it so we really have to say, "Okay, what are ways that we can positively exploit the strengths of the school and align them to other industry and community and foundation organizations."

Into this situation steps the Associate Dean for Research. He has adopted a full information approach to mentoring the faculty to maximize their success rate in applying for grants.

The odds of winning in a way are really decreasing as the competition increases and more federal dollars does not grow as fast. But I think my effort has been to make our faculty members be very aware of the odds when they apply and make sure they put their efforts into the opportunities that gives them good odds of winning and that they are able to have the quality of their proposals improved as well to increase their odds. I have put a lot of effort into faculty training and development and grantsmanship. We have a series of workshops and so on, where we have to make faculty aware of the opportunities that perhaps they're maybe not looking at.

Our school, I think perhaps more than any other school within the MPU system, is just extremely diverse. We have programs ranging from biomedical engineering to music technology to all the other traditional engineering and technology disciplines in between and the funding opportunities are very diverse and different for each of these different programs. The biomedical engineering department faculty focus maybe primarily on the National Institutes of Health. If you're planning to be in NIH, you have to really understand how NIH funding works, the review process, all of that. What's the pay line?

What's the terminology used? What your chances are for winning? How do you improve that? How do you learn from a review and peer review and feedback that you get?

One tactic the Associate Dean for Research used is the creation of interest groups based on the funding source:

What I did was I set up what I called interest groups. I brought all of the people that applied to the NIH to form an internal interest group and have them chat with each other, learn from each other and especially have the more experienced senior people help the less experienced junior people because I wanted them to understand that we're not competing with each other here. We're competing nationally with everybody else. If we help each other, it doesn't really hurt any of us at all internally, typically. We're going to be reviewed by peers nationally. I think that conversation has been very helpful.

Now, even more than with the NIH, for the National Science Foundation we created a self-interest group. I think it was even more successful there than the NIH because I think that the NSF has a very different process and requirements and so on from the NIH. The NSF process was relatively, I think the faculty found it easier to share the experience with each other with respect to NSF process. I'm not sure why but we had several. We had a tremendous increase in funding in NSF over the last five years, maybe five, four but I'm not sure. I have to check the numbers. I think a lot of that had to do with these conversations and learning from each other that went on.

He also encourages faculty to use the feedback they receive to strengthen their proposals. Further, they should be open to opportunities outside of federal agencies:

The other thing that I do is have faculty understand that you really have to use the feedback that you get and improve your proposal, I gave my own experience in that respect, and then understand when the odds are really not in your favor and see if maybe there are different opportunities that you could look for. One initiative that we have recently is with federal laboratories, as opposed to federal funding agencies.

Now, again, someone that doesn't have a lot of experience, maybe a junior faculty coming in might not appreciate the difference right away but that's where if you look very closely, you'll find that there are federal funding agencies like national institutes, the National Science Foundation, DARPA, ARPA-E and so on, that give funding for research by academic institutions, maybe others. And these are peer reviewed, so they'll take the proposals and send them out to other professors at the other universities to review and then just score them and then whoever gets the higher score generally would win. Very transparent peer review process, which is very, very competitive and it's very prestigious to win those grants because you're really reviewed by all of your peers throughout the country.

We want that. We want to compete at the highest level. We want to win but we also want to recognize that we have to be really, really good to win those proposals. But we don't want to put efforts only there because there are other federal agencies and especially laboratories that operate very differently. They do research. They have laboratories. They do research internally, within those federal laboratories. They don't give money out typically. There are tremendous resource that we can partner with and we can leverage if we can form relationships with them.

The Associate Dean also worked with the Dean to establish an outcomes based financial incentive system within the school that reflects the campus based outcomes system as a means to stimulate research:

We get some funding from the campus based on certain outcomes that the campus is looking for in terms of publications and research, grants and so on. That money, we will distribute among the departments. At the time that I started this position that was being done more or less in an incremental way based on the historical record of our departments... But I decided that that wasn't effective for two reasons. One is it doesn't incentivize the departments to do well and secondly, it doesn't reflect the basis on which we're getting the funding from the campus, which is looking at outcomes.

I think the spirit of having a set of metrics that are outcomes based and transparent I think is still there. We set that up four, five years ago and then what that did was not only create the entrepreneurial spirit within the departments but it also helped us increase the campus support because we were able to tell that story to the campus as to how we are doing this. In fact, the very first year they reviewed that new formula, we got a 20% jump in the total grants, total funding that we got from the campus.

***Research at the core of the mission.*** (All four participants interviewed stated that research is at the core of the School of Science's mission). Research is at the core of the mission for the School of Science and its success reflects a commitment to interdisciplinary research and student research. A walk through the hallways of the School is walk past one student research poster presentation after another (see Appendix XX for examples). These poster presentations serve the dual purpose of being informative and symbolic of the value of research in the School. But these



symbols reflect a deeper ethos of research that permeates throughout the School, particularly as it relates to interdisciplinary research. An example of this is in neuroscience.

The School of Science offers an undergraduate neuroscience program with an interdisciplinary curriculum that culminates in a B.S. degree in Neuroscience. The primary focus area is the nervous system and coursework is grounded in biology, psychology, physics, chemistry, computer science, and mathematical sciences. Beyond the academic coursework is a very successful interdisciplinary research agenda that brings together faculty from each of the fields in the undergraduate program. In the words of the dean:

There's not many math departments around the nation where you would go and you would find a fair representation of NIH funding. But again that reflects us working in our environment, right? This is a life-health science rich environment.

The research the dean is referring to is that of a math faculty member trained in computational neuroscience. His interdisciplinary research at the intersection of math and the nervous system won, in collaboration with co-investigators at two other institutions, a five year, \$1.4 million dollar grant from the NIH to study sleep apnea. The final sentence in the news release announcing the award reflects earlier statements by the dean that research is central to the student experience in the School. "[SCMPU] students at the undergraduate, graduate and post-doctoral levels will work with [Faculty Member] on the study." (SCMPU news release, 4/21/15). This same faculty member received a \$1.2 million grant from the CHDI Foundation, a privately funded nonprofit biomedical research organization, to map the human motor control system to study Huntington's disease (SCMPU news release, 3/19/15).

This faculty member isn't the only example of a SCMPU math faculty member working outside their field to advance medical research. The dean describes it this way:

...there's another faculty member in math who is also very well-funded by the NIH who collaborates with our psychology department in the neuroscience and addiction, biology, realm. We have strong collaborations with the school of medicine. Especially psychology has a big addiction neuroscience group, working on alcohol but also some other addictions.

This research is supported by a research institute in the school that brings together faculty from psychology and math (SCMPU news release, 6/4/13).

The School of Science is home to several research centers and institutes. The School expects them to be active, and if they are active they are supported. If not, then the School leadership looks to better allocate those resources.

We believe that if they're operational and doing good stuff then they exist. If they're just a line on someone's email signature they don't exist. We've trimmed a few of them... One of our approaches there has been to try and integrate some strengths across the school.

An example the dean cites is their research institute combining math and psychology faculty where:

(w)e have people who do computational and modeling approaches in every department in the school. We already mentioned earlier that math and psychology have a collaboration which has a big NIH grant and so on. The psychologist who does computational mathematical approaches is now the director of this Institute, and this Institute has members from every department. We have people in earth sciences who do

computational approaches, modeling of environments and the moon and Mars and so on and all sorts of things. This has been an integrator across the school, we've put money into that to let them run pilot programs- it was actually from a pilot grant that led to that NIH grant and you can trace that one directly back.

**Emergent finding: The external environment impacts the behavior of each school**

Each of these three main findings describes a response by the academic school to the challenges and opportunities present in their respective environment. While the schools share the same space as it relates to the physical campus and the administrative and budgetary structure of SCMPU, they compete in different markets, be they for students, research funding or external partnerships, and they engage in the larger external environment in different ways. These approaches are determined by the ways in which each school perceives the challenges and opportunities specific to them. In chapter four the opportunities and challenges perceived by each school were presented. It is worth revisiting these challenges and opportunities briefly now, before moving into the evaluation of the extent of each schools entrepreneurial behavior that occurs in the next section of this chapter, so we can better understand why these schools felt compelled to act in an entrepreneurial manner.

Social Work identified the quality of its faculty, changes in the health care landscape, and its location in the state capital as strengths to be leveraged in pursuit of partnership and revenue opportunities. As a challenge, the Dean identified a concern in managing growth. It is crucial that as the school grows it is able to create a sustainable pipeline of students. This challenge can be mitigated by demonstrating viable career outcomes for an SCMPU Social Work degree.

For the School of Science, the school's location provides significant opportunities to leverage its interdisciplinary approach to research and teaching. Innovative new degree

programs, such as neuroscience, are attracting new students, and interdisciplinary faculty research teams are competing for, and winning, grants from the National Institutes for Health. The School is challenged by space limitations to accommodate their growing student population. They have endeavored to partner with the School of Engineering to fund a new, shared building to address this issue.

The demand for graduates with STEM<sup>9</sup> degrees presents the School of Engineering with natural opportunities because students see economic advantages in an engineering degree. The school is cognizant of the role it plays in filling the state's engineering workforce and actively seeks to partner with businesses in the capital city. Its location in major motorsports city presents natural opportunities for its motorsports engineering degree. The School is challenged by space, but also by the loss of key faculty who secured lots of research funding.

The identification of these challenges and opportunities predicated the strategic responses for each school. The broad themes of these strategic responses produced the three main findings. Finding one pertains specifically to the internal campus environment. The revenue attribution model in effect during the measurement period<sup>10</sup> rewarded schools for instruction of undergraduate students and efficient use of resources. Each of these schools innovated to increase the number of credit hours they taught. Further, each school was able to save funds to build new space to support the work of their school. Each school responded to the opportunities present in their budget model.

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<sup>9</sup> STEM degrees are degrees in Science, Technology, Engineering, and Mathematics.

<sup>10</sup> Since the time this research was conducted SCMPU made changes to the way it distributes tuition and fee revenue.

Finding two describes the ways in which these schools proactively partner with external entities to advance mutual goals. For Social Work this took the form of a partnership with the State Department of Child Welfare to address pressing social issues related to children. For Science this took the form of a culture of partnership that includes academic partnerships with Pharma Giant and the state community college system. Engineering is capitalizing on its unique location and strengths to partner with various entities in the automotive industry in order to advance safety research and technology. Each school leveraged the opportunities present in the environment within and around the university.

The third finding, commitment to research, illustrates how shifts in the funding landscape impact each school. In Social Work, a field that's not historically known to generate much research funding<sup>11,12</sup>, the School simply wants to compete. Thus their activities are focused on incentivizing faculty to engage in externally funded research. In Science and Engineering, each school actively seeks funds from the major players- National Science Foundation and National Institutes for Health- sources that have become much more competitive. They have different approaches to improving their success rate in this hyper-competitive environment. Science is adopting an interdisciplinary approach. Engineering is developing sharper internal policies to train their faculty and better position themselves for success in their research grant applications. Each school is committed to improving their own research performance.

These three schools have been challenged to one degree or another by the external environment. Each of these schools developed entrepreneurial responses to these challenges and

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<sup>11</sup> For context, the chart in Appendix D from the National Science Foundation illustrates the share of federal research dollars by discipline from 2005- 2015. These skew heavily toward science and engineering, and away from the social sciences.

<sup>12</sup> Corvo, Chen, and Selmi (2010) studied the history of federal funding of social work research and concluded that School's of Social Work have been late to game in realizing the importance of research in relation to teaching and service. They are disadvantaged in the pursuit of federal funds as a result.

opportunities. The extent to which they have done so is discussed in more detail in the next section.

## **PART TWO: TO WHAT EXTENT ARE ACADEMIC SCHOOLS ENTREPRENEURIAL?**

Now that the main findings have been established we now must answer the question to what extent each of these schools acts in an entrepreneurial way. To better understand this phenomena, the research questions in Appendix A as well as the continuum in Appendix B provide the framework for answering the extent question. The schools responses to the sub-questions posed in Appendix A have been coded and analyzed.

To determine the extent of entrepreneurial behavior present in each school a continuum based on Clark's (1998) five entrepreneurial elements has been created. The continuum is designed in a three point fashion: high, medium, and low. These scores were determined in the following manner:

**High:** The schools data aligns closely with Clark's definition of entrepreneurial behavior for this element. For example, each school was rated as "High" on the "Strengthened Steering Core" element. Clark states that in this element institutions embrace central managerial groups and academic departments (1998). It is the assertion of this author that these three schools do this.

Another example of a high rating occurs within the element "Expanded Developmental Periphery." Each school was rated "High" because their behavior aligns with the willingness to expand beyond old boundaries and partner with outside organizations, a hallmark of this element according to Clark (1998).

**Medium:** The schools data aligns somewhat with Clark's definition of entrepreneurial behavior for this element. The clearest example of a score of "Medium" is in the "Diversified Funding Base" element. Each school is rated a "Medium" on this element. This is because Clark (1998) defines a diversified funding base as one that opens up new revenue streams from sources such as industry, government, philanthropy, royalties from intellectual property, and student fees. While each of these schools are striving to open these new streams, they are most successful at creating sub-streams into the student fees stream.

**Low:** The schools data does not align with Clark's definition of entrepreneurial behavior for this element. The behavior is the opposite of the definition of a particular element. None of the schools were rated as "Low" in any element. A "Low" rating would have been rendered in the event a school's behavior was completely misaligned with the definition of the particular element.

### **School of Social Work**

#### **1. To what extent has the school strengthened its steering core? High**

By design, the School of Social Work has a lean administrative structure with clear responsibilities. All four interviewees described an organization with a strong chief executive (the Dean) and strong faculty leadership of the curriculum. The President of the Faculty Senate describes the structure this way:

The Dean will tell you that the faculty control the curriculum and he doesn't meddle in that. When it comes to curricular matters, that's pretty much the faculty responsibility. He is fairly transparent about the budget. He shares with us the budget. It doesn't necessarily mean that we are actively involved in every decision, and I am not saying that in a

negative way. I am not so sure we should. He is paid to be the Dean. If it's just about tallying votes, a lot of us can do it.

The dean's perspective on the School's leadership is one of shared governance:

I think we share decision making. Some decisions rest with the dean, obviously. For example, we just hosted a national conference, first of its kind, on distance education social work. That's my decision. I don't go the faculty and say, okay do we want to do this? That decision is mine. If we're offering a program, like an online BSW program or an online MSW program, those are decisions the faculty has to make. With this new building where we're going to occupy a floor, I took that to the faculty and to the staff, because they're the ones who are going to have to live with the cost and it is their future. I laid everything out for them, what that was going to cost and everything, and they voted to have that. I view some things as the dean's prerogative, but I believe in shared governance.

2. To what extent has the school expanded its developmental periphery? **High**

The Schools partnership with the State Department of Child Services exemplifies the spirit of seeking external partners for initiatives. Beyond that, the School is striving to take a lead role in online Social Work education. In 2015 it hosted a national conference focused on Social Work online education. More than 300 individuals from universities across the country attended, opening the doors to innovative partnerships and collaborations. The School plans to host another conference on the same topic next year.

3. To what extent has the school diversified its funding base? **Medium**

This is consistent across all schools. Nearly unanimously the respondents in each school stated that tuition revenue was their primary revenue source. This is reflective of the primary



revenue sources for the institution<sup>13</sup>. On face value, the data informs an assertion that both the university and the School of Social Work are dependent on tuition and fee revenue. The data of this study, however, illustrates ways in which each school has sought to diversify the feeders into its primary revenue lines.

The School of Social Work's partnership with DCS provides a mechanism for federal funds to cover the tuition costs for students at both the undergraduate and graduate level. This allows the School an opportunity to package a compelling program that attracts students they may not otherwise capture. Beyond this, the School's renewed focus on research is an additional way in which it can secure funding to support its activities. This is challenging, though, as the market for federally funded research in Social Work is quite challenging (Corvo, Chen, & Selmi 2010).

4. To what extent has the school stimulated its academic heartland? **High**

Faculty are motivated to innovate in the area of curriculum delivery. They have developed an online MSW program and coordinate a national conference on online Social Work education. As evidenced by their inclusion in this study, they are more active in research than in past years. The president of the faculty senate attributes this to the leadership of the dean.

We have a great faculty. We all get along. This is a real collegial group. Those divisions and stuff<sup>14</sup>, either from smart hires or the right retirements went away, so this is really a great culture, very helpful. I think the Dean really helped with that in terms of just setting a tone and also perhaps how he was the steward of the hiring process. Our faculty is more productive. I think our faculty are better teachers. I think our faculty produce

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<sup>13</sup> Appendix C presents the shifts in budgeted income by source for the SCMPU campus between FY 2010 and FY 2014 (which is the measurement period for the objective measures).

<sup>14</sup> Referring to internal issues when he started at the School more than 20 years ago.

more and so it's a dramatic difference. It really is. You have to put some of that down to leadership. Now, as I've said before, cultures are very fragile. You've always got to stay on top of that, but it's a much better support.

5. To what extent has the school created an integrated entrepreneurial culture? **Medium**

The School has created a culture where new ideas are welcome and encouraged, and this fact was reiterated in statements by all four interviewees. That said, there wasn't a common language present in their responses. There is no formal strategic plan for the School nor were any long term goals articulated across all four interviewees. The Associate Dean did describe new programs in development that will help the School grow and serve the state, but those were not addressed by the other respondents when asked. This lack of consistency across all respondents, especially when juxtaposed against the other schools in the study, caused Social Work to be ranked "Medium" in this element. The lack of visible artifacts such as bold assertions that reflect the school's culture, either on the website or in the halls of the School, also contributed to the rating of "Medium." In each of the other schools all respondents articulated similar aspects of their Schools goals and in a similar language.

### **School of Engineering**

1. To what extent has the school strengthened its steering core? **High**

The School of Engineering and Technology is a dynamic school that embraces academic departments and central leadership. The School of Engineering is organized by academic departments, each with a chair. The dean meets with all department chairs and Associate/Assistant Deans every two weeks. Additionally, during every other meeting the chairs are joined by the administrative directors in the School. These meetings provide a formal space for the dean to discuss current issues in the School with leadership. In the dean's own words, "Even

though it may not directly relate to their area of responsibility, I think it's still useful in terms of getting an overall feel for the functioning of the school and some of the issues the school face,” (Dean of Engineering and Technology).

The School also balances traditional academic values with new managerial approaches. The Chair of Communications Technology best describes this process within the School:

He tends to be very consultative. It depends on the nature of the decision. It depends on how local the decision is. If it's a local departmental decision usually it's the department chair and the dean. The fiscal officer brought it to the discussion to figure out, how are we going to do this. If it's a longer term, if it transcends multiple programs or departments, it may rise to the level of one of our meetings at the chairs and the associate dean's level, to discuss it at that level. You may talk about 'How are we going to do this?'

... That's something where I think [the dean]'s very good about working with the chairs one on one. I think the chair is able to get what they need to get for their program or department contingent on how well the business case they can make. If a person goes in and say, "I want, I want, I want" but they can't frame it in terms of how that is related to our mission and our strategic plan, they can't show how they're going to pay for it, they can't show the return on investment, they can't show the benefit, they're probably not going to be successful. If you can go in and say, "Here's what I want, here's what I need, here's how it's going to benefit you, here's how it's going to contribute, here's our game plan." You're much more likely to be successful. It's almost like going to a venture capitalist, you've got to make a case for it.

2. To what extent has the school expanded its developmental periphery? **High**

The School is willing to expand beyond traditional boundaries and to partner with outside organizations. This is evident primarily in its research partnerships with federal laboratories, motorsports manufacturers, and the State Economic Development Corporation, to name just a few. Beyond these partnerships though is a willingness to actively engage and steward new partnerships. The Dean was recently in Malaysia to reinvigorate an articulation agreement with a partner university that includes students enrolling in the Schools graduate programs. The School also works actively with industry to cultivate their expertise and, ideally, spur future giving to the School. The Chair of the Department of Technology Leadership and Communications describes the council in this way:

We have a very active dean's industrial advisory council at the school level that has the heavy hitting players on it from major industry. Each department and program has an industrial advisory board that provides input into the curriculum into the program.

3. To what extent has the school diversified its funding base? **Medium**

Like the Schools of Social Work and Science, the School of Engineering is dependent on tuition revenue. And like the other schools, they are very active in developing sub-streams of revenue into the tuition stream. Specifically, they are very effective at attracting international students. This is partly attributable to the nature of the School in that international students are drawn to engineering programs. Another aspect, and this is something the School does control, is the creation of compelling degree programs like motorsports engineering that attract students. However, developing sub-streams of revenue into your major stream is not enough to rate "High". Further success in the areas of fundraising, royalties from intellectual property, and industrial partnerships- beyond those discussed- would have contributed to a rating of "High".

4. To what extent has the school stimulated its academic heartland? **High**

The School of Engineering and Technology is very dynamic and attractive to faculty, students, and external partners. Each of the four individuals the author interviewed is very positive about the school and the future. All stated that they support the strategic direction of the School while allowing that even if some faculty and staff don't know all of the plans specifics, they know its spirit and intents.

5. To what extent has the school created an integrated entrepreneurial culture? **High**

In his definition of this characteristic, Clark (2004b) identified bold assertions as indicators of an institutions culture. During the interviews the two department chairs and the Associate Dean for Research all pointed to the Dean's assertion that the School of Engineering must "compete at the highest levels." Whether that is in research or teaching the School must compete at the highest levels. Artifacts of this statement include the way the School has organized its research mentorship program to improve its performance on securing grants, to its development of the motorsports engineering program and commitment to grow graduate programs commensurate to support its research aspirations. The department chairs perspective aligns with the Dean' assessment of the School's performance over the last five years.

I think we've been more focused on the importance of the research enterprise, on the importance of growing the graduate programs. Those are two big priorities there. Even though we've had some challenges with expenditures, for some of the reasons I've cited in terms of losing a gunslinger or two, I think we're building a really solid, solid foundation to grow our research enterprise even though we're in a very competitive environment. We've done a lot to align around our strengths and niches and research where we can compete at the highest levels. Those have been the main changes I believe in the school

over the last five years, is the growth in the graduate programs, strengthening our research and our focus areas, retaining top quality faculty. We have other universities that come after our good people, and we've been successful. We've lost a couple here and there, but generally speaking we've done very well given the environment.

### **School of Science**

1. To what extent has the school strengthened its steering core? **High**

Of the three schools in this study the School of Science is the most decentralized. It has devolved RCM down to the department level, meaning that the chairs have budgetary authority and expenditure accountability for their department. This places a significant level of autonomy with the department chair. The dean maintains control over the availability of positions for new hires, but across the five interviewees there was a consensus that the School was heavily decentralized and engaging of stakeholders. In the words of the Associate Dean for Academic Affairs and Strategic Planning:

... The departments do pretty much operate independently within the school. We're given a lot of our decision making power. That can be a good thing for some departments and not a good thing for other departments. You can hang yourself, if you don't budget your money well. If you can be entrepreneurial, you can generate a lot of budget for yourself. Certainly the chairs report up to the dean... I would not say the dean is a micro manager. I think he allows the chairs a lot of latitude in what they do. There's certain things he has a final say on, but very rarely have ever felt it be "It's my way or the highway" kind of thing. I think it's a discussion and you come to a decision. Sometimes there's financial reasons why you can't just get three new hires.

Key to the administrative culture of the School of Science is the Dean's highly consultative style. He meets monthly with the School's steering committee, which is comprised of the Dean, Associate Dean's, and a representative from each of the seven departments in the School. He meets regularly with the School's Faculty President. While the chairs have control over the budgets, the Dean's office exerts authority over issues such as whether or not a department will have additional funding to make a hire. In the words of the Dean, "I think we give the chairs a fair level of autonomy, you could probably find places that have more but you also find places that probably have a lot less. We don't micromanage departments." This approach works for Science. They embrace highly consultative central management from the dean's office and couple that with a great deal of academic and financial autonomy at the department level.

2. To what extent has the school expanded its developmental periphery? **High**

The school is very proactive in seeking external partners for research and initiatives as discussed in more detail in the findings section. A strong example of this is the PGGRAD partnership with a local pharmaceutical giant. Other examples include partnerships with the state community college system, the SCMPU School of Medicine for research purposes, and the School of Engineering for a new building that houses laboratories, classrooms, and faculty offices.

3. To what extent has the school diversified its funding base? **Medium**

Again, like the others in this study, the School of Science is dependent upon student tuition and fees for revenue. Efforts are being made to win research grants and to improve private giving into the School. However these efforts are not likely to significantly shift the schools dependence on tuition revenue. To this end, the School is proactive in developing

compelling degree programs to attract students. Furthermore, they have hired an undergraduate recruiter to recruit high-achieving high school students for direct admission into their School.

4. To what extent has the school stimulated its academic heartland? **High**

Each of the members interviewed, and specifically the three department chairs, described an engaged faculty. The faculty were engaged in the School's recent development of a five year strategic plan and are invested in realizing its aspirations. The hiring of the Associate Dean for Strategic Planning represents the school's commitment to keeping the faculty engaged and motivated to innovate in ways pursuant to the plan. The devolution of RCM to the department level helps situate decisions closer to the front lines, thus engaging more faculty in decision making. The culture of the School's faculty is best summarized by the Associate Dean for Academic Affairs and Strategic Planning:

I would say we're a stubborn faculty. Faculty don't just lie down. We had that dean [a previous dean] that financially put us in a tough spot. The faculty, actually from that person's home department, really stood up and requested a vote of no confidence. We can argue in a really healthy way and really push.... "Faculty governance is very much alive and well." I think that's really true. We're probably seen as stubborn on campus about certain things, because we hold pretty tight to standards of education, for what we think should happen.

5. To what extent has the school created an integrated entrepreneurial culture? **High**

Across all five individuals interviewed it was clear that the School of Science was a growing, thriving place where innovation and new ideas are encouraged. Unlike the School of Engineering, there is no recurring hallmark assertion to point to as reflective of their culture. Rather, the positivity of the School and its future by those interviewed serves as an indicator of



its culture. Further, the visual artifacts of posted original research by the faculty, graduate, and undergraduate students that adorns most halls of the School reiterates the School's commitment to research at all levels.

### **Cross-case comparison**

This section provides a brief summary of how each school performed in each of the five elements of entrepreneurial behavior. This will be discussed in more detail in chapter six.

***Strengthened steering core:*** Each school scored as “High” on this category. Participants within each school described an organizational structure that is decentralized, reflexive, and engaging of stakeholders within the school. These schools are comfortable balancing traditional academic values with managerial approaches.

***Expanded developmental periphery:*** Each school scored “High” on this category. Each school is active in identifying external partners for funded research or other strategic initiatives. These partnerships led to increases in enrollment or funding for students, which also led to increases in enrollment.

***Diversified funding base:*** Each school scored a “Medium” on this element. Though each School is making efforts to diversify revenue streams from sources such as alumni, industry, and research, their most successful strategy has been in developing sub-streams of revenue into their primary revenue stream, student tuition. The dependence on tuition revenue is true for the institution as a whole (see Appendix C). If the analysis were limited only to success in developing sub-streams of tuition revenue, the schools could have scored higher. Perhaps as SCMPU gets older, it is less than fifty years old, and more alumni have the capacity to give greater financial gifts to the institution, alumni giving and philanthropy may grow and become a more viable revenue stream.

***Stimulated Academic Heartland:*** All three schools scored “High” on this category. All the study participants from academic schools are faculty members. Each described their school’s faculty as being motivated and positively engaged in the life of the school. Sentiments of frustration, disengagement, or concern about the three schools were not present. Positivity was present in each school.

***Integrated Entrepreneurial Culture:*** Science and Engineering scored “High” on this category while Social Work scored a “Medium”. The integrated entrepreneurial culture is the cumulative result of the other four elements culminating in a work culture that embraces change. Further, this element is embodied in the forms of a common aspirational language- bold assertions as Clark (1998) calls them- and visual artifacts reflective of the schools culture. All three schools are innovative and rated either a “High” or “Medium” on each of the other four elements. The schools that scored high in this element, Engineering and Science, really get this bold assertion and visual artifact piece. Engineering participants spoke in a common language, using similar phrases such as “compete at the highest levels”. In the School of Science there is a pervasive display of artifacts that reflect the commitment to research they espoused in their interview statements. While it is evident that the School of Social Work is innovative and entrepreneurial in their strategic responses to their own challenges, it is not immediately obvious. The absence of a common language and artifacts was distinct in Social Work, which resulted in the score of “Medium” for a school that is otherwise entrepreneurial.

## **Conclusion**

This chapter presented the findings to answer the three research questions: (1). To what extent does entrepreneurial behavior exist within academic schools at a university that uses an RCM budget model? (2) What does this behavior look like? (3) What are the characteristics of entrepreneurial academic schools that would be beneficial for their peers to know?

The findings were organized into two sections based on these questions. Data was collected through on-site individuals from three schools identified through objective measures as exhibiting entrepreneurial behavior within an RCM budget environment. The interviews yielded information on the types of values, beliefs, actions, and decisions made by schools in an RCM budget environment. Extensive use of direct quotes from participants was included in the data analysis, which is typical of qualitative research.

With regards to the first question, three themes emerged as findings because of their presence in all three schools. These three major findings are: 1) Entrepreneurial schools leverage the incentives inherent to the institutions' RCM model, specifically the models direct attribution of tuition revenue to the School and the ability for School's to carry forward unspent funds from one year to the next; 2) Entrepreneurial schools leverage the environment within and around the university; and 3) Entrepreneurial schools are committed to improving their research performance. An additional emergent finding, that the external environment impacts the behavior of each school, was also identified.

Using Clark's (1998, 2004) five characteristics of entrepreneurial behavior as a framework to answer the extent question it is determined that while each school exhibits entrepreneurial behavior, the type and extent of this behavior varies. The School of Engineering and the School of Science are the most entrepreneurial of the three schools. Both schools scored

“High” in four out of the five measures of entrepreneurial behavior. In each instance they were rated as “medium” in their performance on the measure of a “diversified funding base”. The School of Social Work registered three ratings of “High” and two of “Medium”.

The three main findings and the emergent finding provide evidence to answer the third research question about the characteristics of entrepreneurial academic schools within an RCM budget model that would be beneficial for peers to know. The implications and utility of these characteristics for peer RCM schools are used to answer this research question in the analysis section of chapter six.

In the next chapter I will analyze and interpret the findings presented in this chapter. I will answer the third research question. This will provide context for the discussion on implications for future research as well as suggestions for future research.

## **Chapter 6: Analysis, interpretation, and synthesis of findings**

The purpose of this study was to determine the extent to which entrepreneurial behavior exists at the academic school level of institutions that utilize a Responsibility Centered Management budget model. The study was designed to better understand entrepreneurial behavior at the school level as one of the ascribed benefits to RCM is that it promotes entrepreneurial behavior. However, there is a dearth of research on entrepreneurial behavior at the school level. This study also sought to identify the characteristics of entrepreneurial academic schools with the intent of providing some benchmark behaviors for practitioners and researchers.

This study was guided by the following main research questions: To what extent does entrepreneurial behavior exist within academic schools at a university that uses a RCM budgeting model? What are the characteristics of entrepreneurial academic schools that would be beneficial for their peers to know? To answer these questions, five sub-questions, based on Clark's (1998) five characteristics of entrepreneurial behavior in higher education, were used to determine the extent of entrepreneurial behavior in each school. These sub-questions are:

- (1) To what extent has the school strengthened its steering core?
- (2) To what extent has the school expanded its developmental periphery?
- (3) To what extent has the school diversified its funding base?
- (4) To what extent has the school stimulated its academic heartland?
- (5) To what extent has the school integrated an entrepreneurial ethos into its culture?

This chapter describes the analysis, interpretation, and synthesis of the research findings. Through this analysis I answer the third research question. The chapter includes the following sections: (a) a summary of the literature review; (b) summary of methods; (c) examination of each finding; (d) implications for future practice; (e) limitations of the study, and (f) considerations for future research.

### **Summary of the Literature Review**

This section begins by summarizing the definition of entrepreneurial behavior used in this study as well as a brief review of Clark's (1998; 2004) research on entrepreneurial behavior in higher education and Slaughter and Rhodes (2004) work on academic capitalism. It concludes with a summary of the literature on RCM and highlights the gap in knowledge of school level entrepreneurial behavior within an RCM environment.

### **Entrepreneurial Behavior Defined**

Before going further it is important to re-state that the focus of this study is entrepreneurial behavior at a non-profit, public research university. With this in mind a profit motive is not present. Rather, the pursuit is revenue to financially support the academic priorities of the university. In this pursuit higher education leaders must be alert to the opportunities present in their environment. Entrepreneurship scholars present the following three main conceptualizations of opportunity: opportunity recognition; opportunity discovery; and opportunity creation (Saravathy, Dew, Velamuri, & Venkataraman, 2011). Of these three opportunity recognition, the phenomenon whereby supply and demand exist rather obviously but the opportunity to connect the two must be recognized, is most pertinent to this study

This study uses Eckhardt and Shane's (2011) definition of entrepreneurship as "... the discovery, evaluation, and exploitation of future goods and services," (p.47). In higher education these future goods and services take the form of knowledge creation and dissemination for new use and application. Entrepreneurial behavior, then, is the action taken by higher education actors in pursuit of new opportunities to generate revenue.

### **The Entrepreneurial University**

A useful framework for understanding entrepreneurial behavior in higher education is the five elements of entrepreneurial action identified by Burton Clark (1998; 2004). These five elements are: a strengthened steering core; an expanded developmental periphery; a diversified funding base; the stimulated academic heartland; and the integrated entrepreneurial culture. The presence of all five elements culminates in institutions adopting what Clark terms a form of collective entrepreneurship.

Gjerding et al (2006) expanded on Clark's (1998; 2004) research to extract what they call the twenty practices of the entrepreneurial university. From their testing of these practices they were able to identify factors that either facilitate or frustrate entrepreneurial behavior. The four factors that facilitate entrepreneurial behavior are: the institutions organizational culture; supporting organizational structures in place; a strategy; and external cooperation. Frustrating factors include: regulation and a lack of flexibility in the administration; a risk averse culture; lack of a long-term commitment to external cooperation and applied research; and lacking a system for spin-offs.

Gibb (2010) considered in his research what an appropriate model of entrepreneurship would look like in the higher education sector. He identified two critical steps necessary to

introduce the entrepreneurial concept to higher education. The first is clarity. There needs to be clarity about the concept of entrepreneurship, or the need for action, in order to get buy-in across the institution. The second critical step is to identify intellectual champions to develop and buy into the model. The champions are essential because they can leverage their knowledge, social, and political capital to involve campus stakeholders and move initiatives forward from idea to action.

### **Academic Capitalism**

The theory of academic capitalism is based on the notion that public and nonprofit institutions of higher education are increasingly engaging in market and market like behaviors to generate external revenues (Slaughter and Rhoades, 2004). Slaughter and Rhoades tested this theory by interviewing faculty and department heads at eleven public research universities, focusing on the fields of engineering, physical sciences, life sciences, mathematics, and social sciences. They found that fiscal pressures compelled institutions to be innovative in their pursuit of revenue. Further, department heads in RCM budget models were more aware of the fiscal realities of their units and felt pressure to act compared to their colleagues in a more centralized budget model. Departments became more entrepreneurial in their research activities and educational programs.

**Individual Entrepreneurship.** Aldridge and Audretsch (2010) identified factors that facilitate the entrepreneurship of individual scientists. They identified that the scientists own social capital is the most important factor influencing one's propensity to become an entrepreneur. An implication of their research is that it is good practice for academic managers to encourage and support faculty to engage with industry in order to spur entrepreneurial activity. However, practices identified by Slaughter and Rhoades (2004) indicate that department heads in



the sciences neither recruit junior faculty who would connect to industry nor do they mentor them to do so.

### **Responsibility Centered Management**

Responsibility centered management is a type of incentive based budgeting system used by institutions of higher education (Whalen, 1991; Priest, Becker, Hossler & St. John, 2002; Priest & Boon, 2006). In this type of budgeting model decision making authority is shifted from the central administration to the deans and fiscal managers at the individual responsibility center level, which include academic schools and individual administrative and student support functions (Whalen, 1991; 2002). In broad terms, RCM encourages efficiency, educationally sound choices, and entrepreneurship through this decentralization of responsibility coupled with financial authority. The theory underlying this approach is that academic deans are more familiar with, and closer to, the issues within their school than the central administration and thus should be empowered to make the best decisions for their school.

**Advantages and Disadvantages of RCM.** Advantages of RCM include the inherent benefits of increased accountability and local decision making (Hummel, 2012). Among the many benefits identified by Lang (1999) is that the assignment of costs to the program level forges strong links between budgeting and planning. This strong linkage reinforces for deans and chairs that the generation of revenue counts.

Critics of RCM point to examples of institutions and their schools who have lost sight of primary academic goals in the pursuit of revenue. Schools creep outside of their purview and expand the number of required courses in their majors to retain more tuition dollars (Kirp, 2003). Administrations cut side deals with particular deans. Some department chair terms are short and

inhibit any type of meaningful financial management by the chair (Strauss, Curry, Whalen, 1996). These disadvantages can be mitigated with the presence of a strong chief academic officer able to emphasize positive incentives of the model while discouraging any negative side effects (1996).

### **Summary of the Methods**

This study was a qualitative case study which used interviews as the main source of data collection. Quantitative analysis of existing school financial and credit hour data informed the qualitative aspects of the study. The site was a public research university located in a Midwestern metropolitan city. Three academic schools within the university were selected based on their performance on objective data measurements and corroborated by their identification as entrepreneurial by the university's Associate Vice Chancellor for Finance. The fourteen participants were the institutions Associate Vice Chancellor for Finance, the deans of the three academic schools, and ten faculty members. The data were transcribed, coded and analyzed. The study was guided by the following research questions: To what extent does entrepreneurial behavior exist within academic schools at a university that uses an RCM budget model? What does this behavior look like? What are the characteristics of entrepreneurial academic schools that would be beneficial for their peers to know?

The answers to the first two of these questions were addressed in chapter five. Three major findings indicate common entrepreneurial behaviors among the three schools. These findings are:

1. Entrepreneurial schools leverage the incentives inherent to the institution's RCM model.

2. Entrepreneurial schools leverage the environment within and around the university.
3. Entrepreneurial schools are committed to improving their research performance.

The extent of entrepreneurial behavior in each school was determined by utilizing Clark's (1998 and 2004) framework. The five research sub-questions, based on Clark's (1998 and 2004) five elements of entrepreneurial behavior in higher education, used in the study to answer the extent question were:

1. To what extent does the school have a strong steering core?
2. To what extent is the school expanding its developmental periphery?
3. To what extent is the school diversifying its funding base?
4. To what extent is the school stimulating its academic heartland?
5. To what extent is the school integrating an entrepreneurial ethos into its culture?

To determine the extent of entrepreneurial behavior present in each school a continuum, based on Clark's (1998) five entrepreneurial elements, was created. The continuum is designed in a three point fashion: high, medium, and low. These scores were determined in the following manner:

**High:** The schools data aligns closely with Clark's definition of entrepreneurial behavior for this element. For example, each school is rated as "High" on the "Strengthened Steering Core" element. Clark states that in this element institutions embrace central managerial groups and academic departments (1998).

**Medium:** The schools data aligns somewhat with Clark's definition of entrepreneurial behavior for this element. For example, each school is rated a "Medium" on this element. This is because Clark (1998) defines a diversified funding base as one that opens up new revenue

streams from sources such as industry, government, philanthropy, royalties from intellectual property, and student fees. While each of these schools are striving to open these new streams, they are most successful at creating sub-streams into the student fees stream.

**Low:** The schools data does not align with Clark's definition of entrepreneurial behavior for this element. The behavior is the opposite of the definition of this element. A "Low" rating would have been rendered in the event a school's behavior was completely misaligned with the definition of the particular element. No school received a "Low" rating.

The Schools of Engineering and Science each exhibited "high" levels of entrepreneurial behavior present in four of the five elements. The School of Social exhibited "high" levels in three of the five elements.

## **Analysis**

To answer the third research question "What are the characteristics of entrepreneurial academic schools that would be beneficial for their peers to know?" this section will examine the findings in light of the research presented in the literature on entrepreneurialism and RCM presented in chapter two. It begins by analyzing opportunity, then moves into analysis of the findings through the lens of Clark's framework and its supporting literature.

## **Academic Entrepreneurial Opportunity Recognition**

The three main findings and the emergent finding reflect Saravathy's (2011) conceptualization of opportunity recognition. The first finding, that entrepreneurial academic schools leverage the incentives present in their environment, aligns with the notion of opportunity recognition. In this instance, SCMPU's choice of an RCM model provides opportunities for school deans to assume ownership of the financial and strategic direction of

their school. The financial incentives inherent within this model, the direct attribution of tuition revenue and the carryover of unspent funds, are mechanisms that each of these schools has recognized and taken advantage of to achieve their goals.

The second finding, that entrepreneurial academic schools leverage the environment within and around the university, represents additional ways in which the schools in this study exhibit opportunity recognition. The schools are sensitive to changes in their larger environment and they adjust their strategic responses accordingly. The School of Science's partnership with Pharma Giant on its PGGRAD program, Social Work's collaboration with the Department of Child Welfare, and Engineering's creation of a Motorsports Engineering degree all are examples of recognizing rather obvious opportunities for academic expansion that generates new revenue. These schools then took the necessary next steps to connect their supply of academic resources and expertise with market demand.

The third finding, that entrepreneurial academic schools are committed to improving their research performance, is another way in which these schools recognize opportunity and shifts in the research funding environment. In this case, though, the supply and demand scenario is different. There is a pressure amongst schools to improve their research profile, thus creating internal demand to seek sponsored research. The supply comes most notably in the form of federal research grants, but is also present in other non-federal grant sources. Each of these schools recognizes the importance of securing sponsored funding and has taken steps to best position themselves to secure these research grants. It is worth noting that these research actions are also indicative of opportunity discovery and opportunity creation. The results of their research efforts may lead to the discovery of new cures for disease or the creation of innovative

technologies and/ or professional practices. The implications of those extend beyond the scope of this research study.

The emergent finding, that the external environment impacts the behavior of the school, is opportunity recognition in action. Each school has identified what they perceive to be the challenges and opportunities present in their respective environment. While they share the same campus, geographical location, administrative and budgetary structure of SCMPU, the markets in which they participate are different. These markets for students and research are defined by their academic disciplines. Each school's strategic responses to these challenges and opportunities, which are entrepreneurial in nature, reflect the ways in which they believe they can best leverage their strengths and actively connect the supply of their knowledge, expertise, and resources to the demand for them in the external environment. The way in which they do this varies and is described in more detail in the following section.

### **The Entrepreneurial School in an RCM Environment**

Clark's (1998) research provides a very useful framework for understanding the entrepreneurial characteristics of academic schools. The following section analyzes the findings and behaviors of the three schools through the five elements of entrepreneurial behavior identified by Clark.

#### ***The strengthened steering core of an entrepreneurial school***

At this point it is important to remember that each of these schools exists within the larger eco-system of the SCMPU campus, and by extension, both MPU and LGU. These relationships provide them with infrastructure, support, and capital (financial, political, and social) that facilitate their existence. Further, the institutions' decision to adopt an RCM budget model is significant in shaping the organizational culture. From this, the individual schools

become primary agents for creating their own culture reflective of their values, resources, attitudes, opportunities, challenges, and leadership.

It has been determined that each of these schools possesses a strong steering core. Participants are confident in the leadership of their respective school and at the same time feel a sense ownership over their work and their initiatives. Two of the schools (Science and Engineering) have a written strategic plan while Social Work does not. Even in the absence of a written plan, Social Work participants interviewed articulated a strong sense of direction for the School.

Participants across all three schools described their leadership as collaborative and organized in a manner that grants significant curriculum control to the faculty while at the same time yielding administrative control to the dean. This is consistent with Clark's assertion that a strengthened steering core must "...embrace central managerial groups and academic departments," (1998, p. 5-6). The iterations take different shapes in each school, but they are present no less. These schools affirm this element of Clark's model. Further, they support three of the four facilitating factors identified by Gjerding, et al (2006): the institution's organizational culture; supporting organizational structures; and strategy.

Gibb's identification of clarity and an intellectual champion as necessary for successful entrepreneurship are also supported by these findings broadly, and within this element specifically. Salient examples of this element are found in each school. In Engineering, the dean is regarded by the faculty as being "in charge" of the school. But the School is comprised of several department chairs with responsibility for operating their department. The chairs meet together regularly with the dean and they respect his consultative approach.

A similar model is found in Science, though in this school RCM has been devolved down to the department level. An implication of this approach is that the department chairs are responsible for the revenues and expenses of their department. This encourages an entrepreneurial approach from the chair. It further requires strong communication between the deans and chairs. The dean of Science convenes regular meetings with department chairs and other school leadership to discuss issues facing the school. He, too, is described as very consultative but very much “in charge.”

Also “in charge” is the dean of the School of Social Work. Given the smaller size of the School the dean works more closely with the President of the Social Work Faculty Senate. The President describes the relationship as positive, but is clear to state the dean runs the school and the faculty own the curriculum.

Consistent across all three schools is stability in the dean’s office. Each dean has been in the position for five years, with the dean of Social holding the most seniority. This stability no doubt has an impact on the school and its strategic direction. In Science and Engineering both deans initiated strategic plans and have been in their positions to implement these plans. In Social Work the dean’s fifteen year tenure underscores the faith the faculty and the administration have in his leadership and strategic direction.

### ***The expanded developmental periphery of an entrepreneurial school***

External partnerships are a hallmark of the expanded developmental periphery at the university level, and they are evident as essential for entrepreneurial schools. Each school in this study has engaged in significant sustained partnerships outside of the university. These schools are boundary spanners seeking opportunities to leverage their strengths and expertise in



meaningful ways that contribute to the education of their students through research and practice. In the cases of Engineering and Science these partnerships have yielded opportunities for new research. A hallmark example, though, is the School of Social Work's partnership with the State Department of Child Services. This partnership leverages federal work force development money to support the education of future social work case workers in the School who are then placed into positions (often leading to full time work) with the state. These case workers are put into the field to assist abused and neglected children and their families. Current case workers in the state are able to access continuing education from the School to improve their professional skills sets. The result is a national model partnership benefitting both the School, the department, and most importantly, the children in the state.

### ***The diversified funding base of an entrepreneurial school***

Like with the strengthened steering core, the role of the larger university environment must be considered. The university is, and will continue to be, dependent on student tuition as its primary revenue source (See Appendix C). The three schools in this study have stepped into this breach and diversified the sources of funding flowing into the student tuition pipeline. Engineering's creation of a motorsports engineering program was a calculated risk and it differentiates the School from other engineering schools in the country. It attracts students to the SCMPU campus who otherwise would not come to the university. SCMPU's RCM model rewards Engineering for this approach through its direct attribution of revenue feature. Science's development of compelling degree programs in neuroscience and biotechnology are further examples of diversifying the primary funding base. Additionally, Science hired a staff member to specifically recruit high school students for direct admission into the School. The effect of this is to increase the number of students taking courses and majoring in Science programs. Social

Work has decided to stake out new territory in their discipline and establish an online masters degree. Like the degree programs in Engineering and Science, this serves the purpose of funneling new funds into the primary pipeline.

The significance of this tack by these schools cannot be understated. Across the board, all participants cited student fees, specifically from undergraduates, as the primary driver of revenue. These schools understand what pays the bills and allows them to engage in other activities, such as research. Each school has identified new knowledge markets that allow them to leverage their existing resources and strengths in a different ways to yield new sources of revenue. For all the very important talk about improving success rates in research grant applications and alumni giving, it is student fee generating activities that garners the most attention.

### ***The Stimulated Academic Heartland of an entrepreneurial school***

Clark (1998; 2004) describes this as a faculty who have bought in to the direction of the institution and its direction. The participants interviewed in this study are “bought in.” The measures of this element are largely abstract, but they were very apparent by the near tonal uniformity of participants. Participants believe in the work of their school, its leadership, and its future direction. It is interesting to note that all participants responded very positively when asked if they enjoy working for their respective school. The School of Science illustrates how this can shift over time.

The School of Science the faculty were heavily involved in the development of their recent five year strategic plan. To ensure the plan is vibrant, and not symbolic, the School created the position of Associate Dean for Academic Affairs and Strategic Planning whose

primary responsibility is to ensure the enactment of the plan. To illustrate the engagement of the faculty in the leadership of the school, she shared a story of how the faculty voted for no confidence in their previous dean. This shift to one of support and a healthy give and take with the current dean highlights how the faculty have “bought in” to the leadership and direction of the school.

In an RCM model academic schools are considered revenue generating units. Clark advises that whenever possible, these units should generate revenue. The schools selected for this study were selected objectively based on their revenue generating performance in relation to their campus peers. The activities and initiatives described in the findings chapter required faculty support within each school if they were to be successful. Their success affirms the presence of a stimulated academic heartland.

### ***The Integrated Entrepreneurial Culture of entrepreneurial schools***

Bold assertions, forward looking language, and a capacity to change are all indicators of an integrated entrepreneurial culture (Clark, 1998; 2004). Engineering seeks to “compete at the highest levels.” Science aspires to be the “school of choice” for students seeking a science degree in the state. They are committed to undergraduate research and the hallways of the School are lined with posters and papers highlighting the original research conducted by both students and faculty. Social Work is looking to the future in its drive to be ranked in the Top 20. The shifting composition of its faculty from practitioner to researcher training, concurrent with its embrace of online learning models, demonstrates its capacity to change.

The three schools in this study are not content with their current position and are very active in planning for the next challenge. They are in tune with the shifts in the markets they

serve, whether it be the student market for their degrees on campus, the state, nation or world, or the market for research dollars. These schools are in constant scan mode. Leadership in the dean's office proactively seeks input. New initiative proposals are encouraged and viable ones are implemented. An innovative spirit is present. In each school it feels as though there is an "ideas welcome" sign on the door.

### **Implications for Practice**

In chapter one of this study the question is asked, to where are higher education leaders turning in order to find new sources of revenue? The response to this question in the higher education literature speaks of the creation of new degree programs, billion dollar fundraising campaigns, and innovations in online education. This literature is helpful for understanding the broad trends on higher education, but for the front line academic leaders such as deans and department chairs, less literature is available on their role in this evolution. This study steps into this void through the lens of studying academic schools in a Responsibility Centered Management budget model.

The findings of this study provide timely, relevant and applicable implications to improve practice. The findings illustrate both how RCM encourages entrepreneurship and the characteristics of entrepreneurial schools while also providing contemporary examples of this behavior. The findings highlight broad characteristics of entrepreneurial behavior that are generalizable and beneficial for academic schools at institutions using an RCM budget model to know.

The first finding, that entrepreneurial schools leverage the incentives inherent to the institution's RCM model, implicitly encourages schools to become experts on the nuances of

their institution's RCM model. Deans and fiscal officers need to really understand how revenue flows into their school and how they can affect this flow. The deans need to be willing and able to create an entrepreneurial culture that embraces change and seeks out innovative approaches to maximize the revenue generating incentives inherent in the institution's RCM model. In this study the direct attribution of tuition revenue and the ability to carryover unspent funds served as real catalysts for innovation within the three schools studied. While these features may not be present at other schools in the same form, nuances in the revenue attribution will exist. Schools would be wise to understand how they are best positioned to leverage their institutions model and the underlying incentive structures embedded in the RCM model employed on their campus.

The second finding, that entrepreneurial schools leverage the environment within and around the university, encourages schools to constantly scan their environment for opportunities to leverage their resources and expertise. Partnerships with external entities create opportunities for research, student placements in internships and jobs, and drive revenue and innovation. The existing literature is clear on this point, and the examples identified in this study validate it. Each of these schools is engaged in substantive, mutually beneficial external partnerships. Schools would be wise to scan their campus and local environment for natural opportunities to establish partnerships or leverage inherent resources to their advantage.

The third finding, that entrepreneurial schools are committed to improving their research performance, is something higher education leaders might hope to be true in all academic schools, but implies that it isn't. The three schools selected for this study outperformed their peers on the SCMPU campus in their ability to secure external research grants. It is important to note that one of these schools, Engineering, actually decreased on this metric by 6.5 percentage points, but still outperformed the campus median. This finding is significant in its call for a

commitment to improving research performance. The current reality of federal research grant success as an indicator of institutional quality is not abetting, nor does the likelihood that the federal funds will increase. Academic schools committed to improving their performance in securing research grants must invest in developing their junior faculty, share expertise within the school for winning grants from entities such as the NIH and NSF, reward success, and encourage interdisciplinary approaches.

The emergent finding, that the external environment impacts the behavior of each school, really highlights the unique challenges and opportunities that confront each school within an institution. Each school in this study identified its location in the capital city as presenting real opportunities for the school. For the School of Science location allowed for research partnerships the corporation Pharma Giant. Engineering leveraged its location to develop a unique academic program in motorsports engineering and also partner with the automotive industry on research. Social Work partnered with the state government to improve professional education and develop a stronger workforce of social workers into the state. The schools embrace change and partnerships with external partners. These three schools are in tune with the environment, its impact on their work, and they strategically respond in an entrepreneurial way.

### **Limitations of the Study**

A significant limitation to this study was selection bias. By utilizing the snowball method of selection for the interviews, I became entirely dependent on each academic dean for the individuals I interviewed. A benefit to this method was that I interviewed faculty members who were knowledgeable about the administrative and financial processes of the school.

However, a limitation is that there is no way to know for sure if those interviewed reflect the thoughts and opinions of the general faculty member in the school.

Another limitation is that the study's design recognizes entrepreneurial behavior by outcomes on the objective measures. This limited study and research only to those schools that were outperforming their peers, disqualifying for study schools that may in fact be acting in an entrepreneurial way but meeting with less success on these measures. Further, the selected time period for the study identifies only those schools who were successful on the measures during that period of time. It is entirely possible that the same study applied to a different time period would identify different schools exhibiting different characteristics.

### **Suggestions for Future Research**

This study provided important information on the characteristics and activities of entrepreneurial academic schools within an RCM budget model. Throughout the study several ideas for future research were identified. They are as follows:

1. Research the schools who performed the worst on all three objective measures of entrepreneurial behavior. What are they doing wrong? What is not working for them? Just as it is important to understand the characteristics of those who are successful, it is worth understanding the characteristics of those who aren't. This could illuminate what not to do.
2. Conduct the same study but instead of interviews with a select few faculty, administer a survey of the full faculty in each School.
3. Research the performance of academic schools within an RCM model on rankings. Some, but not all, disciplines are ranked by entities such as US News and World Report.

What was the ranking of the School before it adopted RCM? What is the ranking of the School? Is there a relationship between the two?

4. Research the impact of the external environment on academic schools in a RCM environment. Does RCM have an impact on academic school partnerships with external entities?

### **Summary**

The purpose of this study was to determine if entrepreneurial behavior exists within academic schools at an institution using RCM as a budget model. It is asserted that entrepreneurial behavior does exist and its extent varies across schools. The findings indicate entrepreneurial academic schools share the following three characteristics:

- a) Entrepreneurial schools leverage the incentives inherent within the institutions RCM model.
- b) Entrepreneurial schools leverage the environment within and around the university.
- c) Entrepreneurial schools are committed to improving their research performance.

These characteristics reflect the types of responses that , and the activities the schools are engaged in, are beneficial for RCM peer schools to know because they validate (to different extents) the existing literature on: entrepreneurial opportunity; the entrepreneurial university; and academic capitalism. These findings contribute contemporary examples of entrepreneurial behavior at the academic school level in and RCM environment to the literature of higher education finance broadly, and RCM specifically, evidence which to this point is limited and dated.



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## Appendix A. Research Questions

Primary Research Question: To what extent do academic schools within a RCM budgeting model engage in entrepreneurial behavior?

Sub-questions:


1. To what extent does the school have a strong steering core?
  - a. What is the managerial structure of the school?
  - b. What values drive the school?
    - i. Researcher note: Do multiple people articulate the same values?
  - c. Are the primary values academic or managerial?
    - i. How do the members of the school describe the balance between the two, if at all?
  - d. How are major decisions made?
    - i. Is there a long process that faculty feel detached from?
    - ii. Do faculty feel engaged in the decision making process?
  - e. Are faculty and department chairs empowered to make decisions?
  - f. How are school budgetary decisions made?
  - g. What is the process for proposing new initiatives?
  - h. Is there money to support new initiatives?
2. To what extent is the school expanding its developmental periphery?
  - a. Is the school actively engaged in any partnerships with industry? Other academic institutions? Other organizations?
  - b. Does the school offer distance, online, or other forms of continuing education?
  - c. Does the school engage in its own fundraising efforts? For example, employ its own development officer?
  - d. Does the school have its own alumni affairs offices?
  - e. Is the school engaged in technology transfer?
    - i. If so, how active is the school? Is the trend upward or down?
  - f. Does the school have research centers or institutes?
    - i. Are they growing or contracting?



3. To what extent is the school diversifying its funding base?
  - a. What are the primary revenue lines in the school?
  - b. How have these revenue lines changed over time?
  - c. What are the drivers of changes in revenue lines?
  - d. What are some examples of new revenue lines?
4. To what extent is the school stimulating its academic heartland?
  - a. Do the faculty support in the strategic direction of the school?
    - i. Researcher note: For some respondents this question will be speculative
  - b. Do the faculty feel empowered to propose new initiatives and ideas?
  - c. How do the faculty describe the school?
    - i. Are they excited about working for the school?
    - ii. Do they describe the school in positive or negative terms when discussing the school?
5. To what extent is the school integrating an entrepreneurial ethos into its culture?
  - a. Are there visual artifacts in the school that reflect a vision for the future?
  - b. Is there a common language spoken by the members of the school that reflects an attitude of innovation and possibility?
  - c. Can the members of the school identify a strategic direction for the school?
    - i. Is the strategic direction of the school clear or ambiguous to members of the school?

## Appendix B. Continuum of Entrepreneurial Behavior for each of Clark's Five Elements


Research Question 1. To what extent is the school strengthening its steering core?

<u>LOW</u> Centralized Highly Bureaucratic		<u>HIGH</u> Decentralized Reflexive and engages stakeholders
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Research Question 2. To what extent is the school expanding its developmental periphery?

<u>LOW</u> Insular Maintains status quo		<u>HIGH</u> Seeks external partners for research and initiatives
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Research Question 3. To what extent is the school diversifying its funding base?

<u>LOW</u> Dependent on a primary source of revenue		<u>HIGH</u> Multiple funding sources contribute significantly to the bottom line
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Research Question 4. To what extent is the school stimulating its academic heartland?

<u>LOW</u> Disengaged faculty		<u>HIGH</u> Motivated faculty innovating at all levels (individual, department, and school)
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Research Question 5. To what extent is the school creating an integrated entrepreneurial culture?

<u>LOW</u> Lack of a coherent vision		<u>HIGH</u> Common language reflects common goals Artifacts that reflect the schools new identity
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Appendix C. Change in SCMPU Campus General Fund Budgeted Income FY 2010 to FY 2014

	<u>Dollars</u>				<u>Change in PCT of Total</u>		
	<u>2009/10</u>	<u>2013/14</u>	<u>\$ Change</u>	<u>PCT Change</u>	<u>2009/10</u>	<u>2013/14</u>	<u>PCT Change</u>
State Appropriation	231,939,802	223,725,395	(8,214,407)	-3.5%	41.5%	35.4%	-6.1%
Student Fees	257,474,927	328,103,271	70,628,344	27.4%	46.1%	51.9%	5.8%
Other Income <sup>1</sup>	<u>69,602,951</u>	<u>80,346,205</u>	<u>10,743,254</u>	<u>15.4%</u>	<u>12.5%</u>	<u>12.7%</u>	<u>0.3%</u>
<b>Total</b>	<b>559,017,680</b>	<b>632,174,871</b>	<b>73,157,191</b>	<b>13.1%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>0.0%</b>

Source: MPU University Budget Office Official Budgets for FY 2010 and FY 2014

<sup>1</sup>- Other income is the sum of indirect cost recovery, transfers, and other revenue

## Appendix D. Federal Research Funding By Discipline, 2005-2015, in dollars and Percent of Total

### Federal Research Funding By Discipline, 2005-2015

(budget authority in billions of constant FY 2015 dollars)

Discipline	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	'05 - '15	Discipline
NIH Life Science	27.05	26.26	26.87	25.90	29.93	30.33	25.85	26.25	24.46	24.86	24.76	-8.5%	NIH Life Science
Other Life Science	6.69	6.18	6.45	6.15	6.51	6.49	5.48	6.17	5.72	6.08	5.84	-12.8%	Other Life Science
Psychology	2.27	2.03	2.08	1.93	2.29	2.34	2.01	2.18	1.99	2.01	2.01	-11.2%	Psychology
Physical Science	6.59	6.22	5.81	5.62	6.38	6.38	5.78	6.71	6.46	6.65	6.40	-2.9%	Physical Science
Environmental Science	4.20	3.99	3.59	3.31	4.11	3.63	3.42	4.07	4.16	4.39	4.18	-0.4%	Environmental Science
Math / Computer Science	3.58	3.27	3.33	3.38	3.96	3.71	3.59	3.69	3.53	3.83	3.88	8.4%	Math / Computer Science
Engineering	10.26	10.08	10.17	9.95	11.28	12.03	10.71	11.94	11.26	11.65	11.65	13.6%	Engineering
Social Science	1.32	1.31	1.30	1.08	1.27	1.30	1.34	1.18	1.27	1.45	1.33	1.2%	Social Science
Other*	2.51	2.86	1.59	2.41	4.07	3.00	3.62	2.67	2.06	2.59	2.54	1.4%	Other
<b>Total</b>	<b>64.46</b>	<b>62.19</b>	<b>61.19</b>	<b>59.73</b>	<b>69.79</b>	<b>69.21</b>	<b>61.80</b>	<b>64.85</b>	<b>60.91</b>	<b>63.51</b>	<b>62.60</b>	<b>-2.9%</b>	<b>Total</b>

### Federal Research Funding By Discipline as Share of Total Research, 2005-2015

Discipline	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	'05 - '15	Discipline
NIH Life Science	42.0%	42.2%	43.9%	43.4%	42.9%	43.8%	41.8%	40.5%	40.2%	39.1%	39.6%	-5.7%	NIH Life Science
Other Life Science	10.4%	9.9%	10.5%	10.3%	9.3%	9.4%	8.9%	9.5%	9.4%	9.6%	9.3%	-10.2%	Other Life Science
Psychology	3.5%	3.3%	3.4%	3.2%	3.3%	3.4%	3.3%	3.4%	3.3%	3.2%	3.2%	-8.6%	Psychology
Physical Science	10.2%	10.0%	9.5%	9.4%	9.1%	9.2%	9.4%	10.3%	10.6%	10.5%	10.2%	0.0%	Physical Science
Environmental Science	6.5%	6.4%	5.9%	5.5%	5.9%	5.2%	5.5%	6.3%	6.8%	6.9%	6.7%	2.5%	Environmental Science
Math / Computer Science	5.6%	5.3%	5.4%	5.7%	5.7%	5.4%	5.8%	5.7%	5.8%	6.0%	6.2%	11.6%	Math / Computer Science
Engineering	15.9%	16.2%	16.6%	16.7%	16.2%	17.4%	17.3%	18.4%	18.5%	18.3%	18.6%	16.9%	Engineering
Social Science	2.0%	2.1%	2.1%	1.8%	1.8%	1.9%	2.2%	1.8%	2.1%	2.3%	2.1%	4.2%	Social Science
Other*	3.9%	4.6%	2.6%	4.0%	5.8%	4.3%	5.9%	4.1%	3.4%	4.1%	4.1%	4.5%	Other

Source: American Association for the Advancement of Science based on data available from the National Science Foundation, Federal Funds for R&D survey data series, available at <http://www.nsf.gov/statistics/fedfunds/>. FY 2014 and 2015 data are preliminary. Includes Recovery Act funding starting in FY09.

Constant-dollar conversions based on GDP deflators from Budget of the U.S. Government FY 2016.

\* - Includes research not elsewhere classified.

Basic and applied research only. Development and R&D facilities are not classified by discipline.

## Appendix E: IRB Approval Letter



### INDIANA UNIVERSITY

OFFICE OF THE VICE PRESIDENT FOR RESEARCH  
Office of Research Compliance

**To:** Donald Hossler  
EDUCATION

R.J. Woodring  
EDUCATION

**From:**

A handwritten signature in black ink, appearing to read "Adam Mills".

Human Subjects Office  
Office of Research Compliance – Indiana University

**Date:** April 23, 2015

**RE:** NOTICE OF EXEMPTION - NEW PROTOCOL

Protocol Title: Entrepreneurial behavior in academic schools at an institution using an incentive based budgeting model

Study #: 1503977028

Funding Agency/Sponsor: None

Status: Exemption Granted | Exempt

**Study Approval Date:** April 23, 2015

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The Indiana University Institutional Review Board (IRB) EXE000001 | Exempt recently reviewed the above-referenced protocol. In compliance with 46 C.F.R. § 46.109 (d), this letter serves as written notification of the IRB's determination.

The study is accepted under 45 C.F.R. § 46.101 (b), paragraph(s) (2) Category 2: Surveys/Interviews/Standardized Educational Tests/Observation of Public Behavior Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior if: i) information obtained is recorded in such a manner that human subjects cannot be identified, directly or through identifiers linked to the subjects; or ii) any disclosure of the human subjects responses outside the research would not reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects financial standing, employability or reputation.

Acceptance of this study is based on your agreement to abide by the policies and procedures of the Indiana University Human Research Protection Program and does not replace any other approvals that may be required. Relevant policies and procedures governing Human Subject Research can be found at: [http://researchadmin.iu.edu/HumanSubjects/hs\\_guidance.html](http://researchadmin.iu.edu/HumanSubjects/hs_guidance.html).

The Exempt determination is valid indefinitely unless changes in the project may impact the study design as originally submitted. Please check with the Human Subjects Office to determine if any additional review may be needed.

You should retain a copy of this letter and all associated approved study documents for your records. Please refer to the assigned study number and exact study title in future correspondence with our office. Additional information is available on our website at <http://researchadmin.iu.edu/HumanSubjects/>.

**If your source of funding changes, you must submit an amendment to update your study documents immediately.**

If you have any questions or require further information, please contact the Human Subjects Office via email at [irb@iu.edu](mailto:irb@iu.edu) or via phone at (317)274-8289 (Indianapolis) or (812) 856-4242 (Bloomington).

You are invited, as part of ORA's ongoing program of quality improvement, to **participate in a short survey** to assess your experience and satisfaction with the IRB related to this approval. We estimate it will take you approximately **5 minutes to complete the survey**. The survey is housed on a Microsoft SharePoint secure site which requires CAS authentication. This survey is being administered by REEP; please contact us at [reep@iu.edu](mailto:reep@iu.edu) if you have any questions or require additional information. Simply click on the link below, or cut and paste the entire URL into your browser to access the survey: [https://www.sharepoint.iu.edu/sites/iu-ora/survey/Lists/Compliance/IRB\\_Survey/NewForm.aspx](https://www.sharepoint.iu.edu/sites/iu-ora/survey/Lists/Compliance/IRB_Survey/NewForm.aspx).

/enclosures

## Appendix F: Letter of Invitation to Study Participants

Dear NAME OF SCHOOL DEAN Member,

This email is sent to solicit your involvement in my dissertation research to complete requirements in the Higher Education and Student Affairs Doctoral Program at Indiana University. I have selected the (NAME OF SCHOOL) for inclusion in my research because of your positive track record of budget, credit hours, and research expenditure growth. The Indiana University Human Subjects Committee (INSERT STUDY NUMBER) has approved this study. The working title is Entrepreneurial behavior in academic schools at an institution that uses an RCM budgeting model.

My research is a qualitative study on entrepreneurial behavior in higher education. This research is being conducted at three academic schools at your institution. The study aims to identify evidence of the extent to which entrepreneurial behavior exists within academic schools in an RCM environment. I believe this work will inform practice on how academic schools innovate within an RCM budget model.

The following questions guide this research:

To what extent do academic schools within a RCM budgeting model engage in entrepreneurial behavior? To answer this question the following five sub-questions, based on Clark's (1998) framework, will be used to analyze the entrepreneurial behavior of the schools:

- To what extent is the school strengthening its steering core?
- To what extent is the school expanding its developmental periphery?
- To what extent is the school diversifying its funding base?
- To what extent is the school stimulating its academic heartland?
- To what extent is the school integrating an entrepreneurial ethos into its culture?

The expectation of participants will be two interviews during May, June, and July. The interviews will be 60-90 minutes long and can be conducted at a location and time convenient for you. Participants will review texts I create based on our two interviews. This will help ensure the accuracy of my work. I expect that interviews and texts review will take four hours combined.

If you are interested in participating in this study please respond to this email so that we may schedule the first interview. The research is conducted under the guidance of a committee chaired by Dr. Don Hossler. He can be contacted at [hossler@indiana.edu](mailto:hossler@indiana.edu) if you have questions or concerns.

Sincerely,

R.J. Woodring  
Doctoral Candidate  
Higher Education and Student Affairs  
Indiana University

Appendix G: Study Information Sheet

**IRB STUDY #1503977028**

**INDIANA UNIVERSITY STUDY INFORMATION SHEET FOR**

**Entrepreneurial behavior in academic schools at an institution using an  
Incentive Based Budgeting Model**

You are invited to participate in a research study of entrepreneurial behavior in higher education. We ask that you read this form and ask any questions you may have before agreeing to be in the study. The study is being conducted by R.J. Woodring in order to complete requirements in the Higher Education and Student Affairs Doctoral Program at Indiana University.

**STUDY PURPOSE**

The purpose of this study is to identify if, and to what extent, entrepreneurial behavior exists in academic schools at an institution using an incentive based budgeting model.

**PROCEDURES FOR THE STUDY:**

If you agree to be in the study, you will do the following things:

1. Participate in one initial 60-90 minute interview
2. Participate in one follow-up interview, approximately 60-90 minutes in length.
3. Review a written draft of the text compiled from the interviews to insure accuracy.

**CONFIDENTIALITY**

Efforts will be made to keep your personal information confidential. We cannot guarantee absolute confidentiality. Your personal information may be disclosed if required by law. Your identity will be held in confidence in reports in which the study may be published and databases in which the results may be stored. The interviews will be tape recorded but access will be limited to the primary researchers.

Organizations that may inspect and/or copy your research records for quality assurance and data analysis include groups such as the study investigator and his/her research associates, the Indiana University Institutional Review Board or its designees, the study sponsor, Indiana University, and (as allowed by law) state or federal agencies, specifically the Office for Human Research Protections (OHRP).

**PAYMENT**

You will not receive payment for taking part in this study.

**CONTACTS FOR QUESTIONS OR PROBLEMS**

For questions about the study, contact the researcher R.J. Woodring at 312-504-9323. This dissertation is chaired by Dr. Don Hossler and he may be reached at [hossler@indiana.edu](mailto:hossler@indiana.edu)



For questions about your rights as a research participant or to discuss problems, complaints or concerns about a research study, or to obtain information, or offer input, contact the IU Human Subjects Office at (317) 278-3458 or (812) 856-4242 or (800) 696-2949.

**VOLUNTARY NATURE OF STUDY**

Taking part in this study is voluntary. You may choose not to take part or may leave the study at any time. Leaving the study will not result in any penalty or loss of benefits to which you are entitled. Your decision whether or not to participate in this study will not affect your current or future relations with Indiana University.

Curriculum Vitae  
**Robert J. (R.J.) Woodring**

**Education**

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*Indiana University- Bloomington, Indiana*

**Doctor of Education**

**Higher Education Administration**

**May, 2016**

*Minor: Non-profit management*

**Master of Science**

**Higher Education & Student Affairs Administration**

**May, 2010**

*University of Kansas - Lawrence, Kansas*

**Bachelor of General Studies**

**Communication Studies**

**May, 2005**

**Professional Experience**

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*Indiana University-Bloomington- School of Public and Environmental Affairs*

**Director, Undergraduate Programs Office**

**January, 2016- Present**

- Direct and manage the programmatic, budgetary, and personnel operations of the Bloomington campus Undergraduate Programs Office for the School of Public and Environmental Affairs (SPEA).
- Provide strategic leadership for the following functional areas within the School: undergraduate recruitment, admissions, scholarships, academic records, academic advising, student registration, student engagement, and adjunct instructor search and development.
- Supervise three functional area directors and a total staff of fifteen FTE's and eleven graduate assistants.

**Associate Director, Undergraduate Programming    October 2014- Jan. 2016**

- Develop strategic student programming plan to expose, educate, and engage undergraduate students in the School.
- Lead the budgeting process for the School's admissions and student engagement function.
- Supervise a team of 6 graduate assistants to create and deliver high-impact programming for the undergraduate population.
- Advise the Indiana University Model United Nations team.

*Indiana University-Bloomington: Office of the Provost, Budgetary Administration & Planning*

**Associate Director, Budget, Planning and Development    Oct. 2012- Oct. 2014**

- Assist in the construction of the IU Bloomington General Fund Budget (\$1 Billion in FY15).
- Conduct financial and administrative strategic planning to support budgetary decision making.
- Participate in campus level budget hearings with senior administrators and academic deans.

- Review and map the activities of all support services on the IU Bloomington campus in conjunction with members of the Budgetary Affairs Committee of the Bloomington Faculty Council. Final report was submitted to the Provost in accordance with the recommendations of the 2011 RCM Review of the Bloomington campus.
- Lead the redesign and content creation of the Budgetary Administration and Planning website to improve the flow of information to academic and support unit financial officers.
- Utilize the business analytic software Tableau to create interactive data visualizations of budget planning data. This yields a significant increase in information transparency and aids in the planning process for academic deans and financial officers.
- Compile student credit hour, enrollment, and employee census data to be used for financial modeling. Requires extensive use of Microsoft Excel.
- Serve as the Bloomington budget office liaison to the American Association of Universities Data Exchange.

*Indiana University-Bloomington: Division of Student Affairs, Student Life and Learning*  
**Senior Assistant Director, Student Life and Learning** **May 2010- October 2012**

- Served as a member of the Student Life and Learning (SLL) senior staff, a unit of the Division of Student Affairs, responsible for oversight and strategic direction of student leadership programs, student government, student media, and the 70 plus member chapters of the IU Bloomington fraternity and sorority life community.

### ***Supervision***

- Supervised professional and graduate staff including the Assistant Director for Fraternity and Sorority Life, LEAD IU Graduate Assistant, Student Organization Ethics Board Graduate Assistant, the Fraternity and Sorority Life Education Graduate Assistant, and five undergraduate student interns.
- Developed a comprehensive competency-based evaluation model for Student Life and Learning staff and graduate assistants.

*Woody Buick Pontiac GMC, Elgin, IL and Bensenville, IL*  
**General Sales Manager** **June 2001 – August 2008**

- Provided strategic leadership to a sales and management staff of 18 people resulting in more than \$44million in annual sales revenue.
- Cultivated a “culture of success” among the sales staff leading to a 400% increase in sales volume for the Elgin location (2006 vs. 2005).
- Handled all aspects of human resource issues.
- Hired, trained, facilitated continuing education, and terminated sales and management staff.
- Managed the complex sales process from introduction through closing of more than 700 sales transactions annually.
- Analyzed market data and trends to forecast future sales targets and revenues.
- Applied market based research and consumer trends to provide strategic and creative planning for a \$600,000 annual advertising budget.
- Supervised the selection, purchase, and configuration of \$6 million worth of new and used car inventory.
- Negotiated advertising rates and placement directly with newspapers, magazines and radio stations.

## **Practicum & Graduate Student Experience**

*Indiana University-Bloomington: Office of Sr. Vice President and Chief Financial Officer*

### **Budget Practicum**

**May 2012- August 2012**

- Conducted institutional research to identify best practices in alumni relations programming among peer institutions.
- Collaborated on the development and implementation of a review of all support services on the Bloomington campus.
- Participated in year-end budget meetings with the academic deans and fiscal officers of all schools and support centers on the Bloomington campus.

*Indiana University-Bloomington: Division of Student Affairs, Office of Student Ethics*

### **Judicial Officer**

**January 2009- August 2012**

- Served as a Dean of Students designee to preside over judicial hearings in which students are alleged to have violated the Code of Student Rights, Responsibilities, and Conduct.
- Provided disciplinary and educational sanction recommendations for students found responsible for violating the Code of Student Rights, Responsibilities, and Conduct.
- Facilitated developmentally appropriate conversations with students to help them understand the implications of their conduct.

*Indiana University-Bloomington: Division of Student Affairs, Student Life and Learning*

### **LEAD IU Coordinator & Student Media Advisor**

**August 2008- May 2010**

- Collaborated in program leadership for LEAD IU, a comprehensive curricular and co-curricular leadership development program for undergraduate students.
- Responsible for the planning, marketing, curriculum design, and facilitation of the annual LEAD IU Student Leadership Retreat.
- Participated in the organization, marketing and implementation of the curricular component of LEAD IU.
- Assessed the effectiveness and relevance of program offerings to ensure the needs of participants were met.
- Assisted in the creation of a comprehensive leadership development program for student athletes in partnership with the IU Athletics Department.
- Presented campus leadership opportunities to students through public speaking engagements, small group presentations, individual advising sessions, and online marketing.
- Graduate Advisor to Indiana University Student Television (IUSTV) and Radio, WIUX-FM.

## **Teaching Experience**

### *Undergraduate Level*

- **SPEA V260** *Principles and Practices of Modern Leadership* (SP 16)
- **EDUC U207** *Leadership Training* (SP 12)
- **EDUC U495** *Senior Capstone* (SP 12)
- **EDUC U495** *Seminar in Leadership Training* (SP 12)
- **EDUC U495** *College Student Governance* (FA 11)
- **EDUC U495** *Greek Emerging Leaders Course* (FA 11)
- **EDUC U208** *Training for Paraprofessionals in Student Affairs* (FA 11)
- **EDUC U495** *IFC/ Panhellenic Presidents Leadership Course* (SP11)
- **EDUC U495** *College Student Governance* (SP 11)
- **EDUC U495** *Emotionally Intelligent Leadership* (SP 11)

- **EDUC U208** *Training for Paraprofessionals in Student Affairs* (FA 10)
- **EDUC U206** *Orientation to College Life* (FA 10)
- **EDUC U495** *Leading at IU* (SP10)
- **EDUC U495** *Succeeding at IU* (SP09)
- **EDUC U495** *Fast Track to Leadership* (FA08)

#### *Graduate Level*

- **EDUC G573** *Counseling and Communication Skills* (FA09), Indiana University  
*Served as a peer mentor responsible for assisting the professor in facilitating small group counseling triads as well as presenting instructional vignettes on various counseling skills*

### **Presentations**

Woodring, R.J. (2012) Being a change agent. Fraternity Executives Association Field Staff Training. Indianapolis, IN.

Woodring, R.J. & Whitney, L.E. (2011) What exactly is a rape-supportive culture. Association of Fraternity & Sorority Advisors Annual Conference. St. Louis, MO.

Woodring, R.J. & Whitney, L.E. (2011) What does it look like? A study on rape-supportive culture. AFA/ ASCA Region III Conference. Indianapolis, IN.

Woodring, R.J., Calhoun, M.G., White, M.R. (2011). Indiana University Athletics Excellence Academy. Indiana University First Year Experience Conference. Bloomington, IN.

Woodring, R.J., Nagy, S.J. (2010). The capacity to lead. Men and Women of Color Leadership Conference. Bloomington, IN.

Woodring, R.J., McCord, C.M., et al. (2010). Addressing rape-supportive culture and its effects on first-year students. Indiana University First Year Experience Conference. Bloomington, IN.

Woodring, R.J., Argiero, S.J., & Nagy, S. (2010). Many roads to student leadership and engagement. Indiana University First Year Experience Conference. Bloomington, IN.

Woodring, R.J. & Shinn, J. (2009). Mobilizing a vision for the future. Workshop presented for the Iraqi Young Leaders Exchange Program, Indiana University School of Journalism. Bloomington, IN.

### **Publications**

Argiero, S.J., Dyrdaahl, J.L, Fernandez, S.S., Whitney, L.E., & Woodring, R.J. (2010). A cultural perspective for understanding how campus environments perpetuate rape-supportive culture. *Journal of the Indiana University Student Personnel Association*. (49) 26-40.

### **Other Relevant Experience**

#### ***Campus Involvement***

- Residential Fellow, Kelley School of Business Living Learning Community. Indiana University-Bloomington. August 2011- 2015.

- Member, Division of Student Affairs Development Committee. Indiana University-Bloomington. August 2010- September 2012.
- Member, Division of Student Affairs Marketing Committee. Indiana University-Bloomington. October 2011- September 2012.
- Member, Center for Student Leadership Advisory Board, Indiana University-Bloomington, 2008 – 2012.
- Member, FYE Experience Student Success Conference Planning Committee. Indiana University- Bloomington. November 2010- February 2011.
- Director of Professional Development, Indiana University Student Personnel Association, December 2008 – December 2009.
- Judge, Greek Assessment and Awards Program. Indiana University-Bloomington, 2008, 2009, 2010, 2011.

### ***External Involvement***

- Member, Society of College and University Planners.
- Member, National Association of Student Personnel Administrators (NASPA).
- Member, Association of Fraternity & Sorority Advisors.
- 2012 Graduate, “The Gathering”, Association of Fraternal Leadership & Values.
- Chair, 2011 NASPA Region IV-E New Professionals Institute.
- Co-Chair, 2009, 2010 NASPA Region IV-E New Professionals Institute.
- Scholarship Advisor, Indiana Chapter of the Delta Chi Fraternity.
- 2011 Graduate, Interfraternity Institute, Bloomington, IN.

### ***Group Facilitation***

- Indiana University Greek Leadership Academy. January 20- 21, 2012. Martinsville, IN. (Lead Facilitator).
- Delta Chi Fraternity A’s Academy. January 13-16, 2012. St. Meinrad, IN. (Lead Facilitator).
- Indiana University Interfraternity Council & Panhellenic Association Leadership Academy. January 21- 22, 2011. Martinsville, IN. (Co-Lead Facilitator).
- Delta Chi Fraternity “A”’s Academy. January 14-17, 2011. St. Meinrad, IN. (Small Group Leader).
- Indiana University Interfraternity Council & Panhellenic Association Leadership Academy. January, 2010. Bloomington, IN. (Co-Lead Facilitator).
- 2010 NASPA Region IV-E New Professionals Institute. November 5-6, 2010. Minneapolis, MN. (Co-Lead Facilitator).
- 2009 NASPA Region IV-E New Professionals Institute. November 4-5, 2009. Lombard, IL. (Co-Lead Facilitator).
- Indiana University Student Leader Retreat. October, 2009. Nashville, IN. (Co-Lead Facilitator).
- Indiana University Student Leader Retreat. October, 2008. Nashville, IN. (Co-Lead Facilitator).